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EDITORS AND PROPRIETORS.

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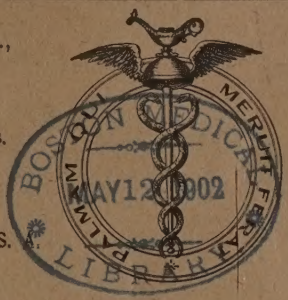

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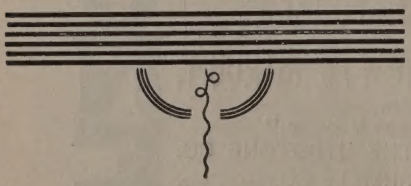

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An era is fast approaching, when no writer will be read and appreciated by the great majority, save and except those who can effect that for bales of manuscript, that the hydrostatic screw performs for bales of Cotton by condensing that matter into a period that before occupied a page.—COLTON.

ORIGINAL COMMUNICATIONS.

PATHOLOGY AND TREATMENT OF ANÆMIA.

BY W. E. FITCH, M. D.,

Savannah, Ga.

"The life of the flesh is blood, and out of the heart are the issues of life." A familiar Bible quotation, reminding us that the vital nature of the blood was known long before Harvey and his discovery in 1616.

The blood holds in solution certain albuminous bodies, and a number of mineral substances that might be called invisible constituents, the study of which belongs to the physiological chemist. In addition, it holds in suspension certain visible bodies, the red and white corpuscles, which are open to direct inspection. The study of these latter elements, their form, color, size, number and relative proportion, are the histological factors with which we are concerned. The chemistry of the red corpuscles is complex, and in some respects still unsettled. Its most important ingredient, hemoglobin, possesses brilliant optical properties, and is the only proteid of the body containing iron. It is the blood constituent that conveys oxygen to the tissues, and is characterized by the readiness with which it absorbs and parts with oxygen. In arterial blood it exists as oxyhemoglobin, in venous as reduced hemoglobin, easily distinguished by a spectroscope. It is crystallizable and easily obtained from the blood of man and of animals. It is the vital element of the blood, always present, and when slightly reduced below the normal results in functional disorder, and if extreme, in grave and irreparable organic lesions. The absence of this substance from the blood, in greater or less degree, is the cause of the various forms of anæmia.

Next in importance are the blood corpuscles, the white being a large spherical mass of granular nucleated protoplasm, existing in

the normal proportion of one white to five hundred red. Other morphological elements that concern us in this discussion are the hematoblasts of Hoyem, whose functions are concerned in the production of fibrin.

The microcytes, much smaller bodies than the red corpuscles, contain abundant coloring matter, and are numerous in the idiopathic and pernicious forms of anæmia. We have thus outlined these constituent bodies of the blood to elucidate our subject and to emphasize their relative importance in the subject we am about to consider, for the functional power of the blood depends wholly upon the number and quality of its red corpuscles, and when a deficiency exists the tissues suffer for want of oxygen, the most nutritive element of the body.

Anæmias are properly classified with reference to their origin. Anæmia resulting from nutritive disturbances in the blood, to food supply, digestion, absorption, and the direct loss of blood by hemorrhage, as causative factors, might be called secondary, while the primary include chlorosis, leucemia, and pernicious anæmia, and a third, suggested, to include those forms resulting from the effect of toxic substances in the blood, namely, toxemia. We can not hope to cover the extent of the subject, including all the varieties, but will consider briefly the two forms most frequently encountered, viz, chlorosis and idiopathic anæmia, for the blood changes, symptoms, and chemical features, as well as the treatment, apply largely to other and graver forms of this disease.

Pathology.—The pathology is also obscure; our knowledge of the physiology of the blood, the origin, development and destination of the red corpuscles, is involved in so much doubt as to render it impossible to discover its pathological secrets. It is obvious that something concerned in the development of the red corpuscle is a cause, or some distinct agent exists, for the prominent feature, diminution, must be due to one or both of these causes.

In the severe forms of anæmia cardiac disturbance and extreme emaciation maked by edema may be present.

Anæmia, as a rule, is not recognized clinically until the hemoglobin represents about three or four million corpuscles per cubic millimeter, but their real value may be only 50 per cent. of the normal. In this degree of anæmia none would have the signs and symptoms, such as pallor, vertigo, flushing of face, tinnitus aurium, backache, irregular appetite, ill temper, etc. Should the corpuscles fall below or approximate two or three million, we should have an increased amount of hemoglobin, with a large decrease in the number of cells. It is a familiar fact to all students of blood diseases that as the number of corpuscles diminishes the percentage of hemoglobin increases, until in the severe forms it may equal or exceed the percentage of red corpuscles. A number as low as 3,000,000 per cubic millimeter denotes a grave form of anæmia. In the pernicious form the increase in size of the corpuscles seems to be conservative, a compensation

by nature, for they will carry as much hemoglobin as double this number in normal corpuscles and hence the enlarged and distorted corpuscles are suggestive of a grave condition.

It is well to remember that an anæmia may not be considered grave until the corpuscles have undergone distinct alterations as to size and shape. In the most severe form the number of corpuscles varies from 500,000 to 2,000,000 per cubic millimeter. This degree is suggestive of disease of the blood-making organs, the spleen, lymph glands, or bone-marrow. Then in the grave forms we have always an increased size and lessened number, while in chlorosis we have generally a diminution in size, combined with an increase in number. It is an established fact that the amount of hemoglobin in two red corpuscles from different individuals may differ as much as 50 per cent., so that the number of corpuscles does not afford a reliable test of the presence or absence of anemia.

When below the normal average anemia may be determined by a simple count, but its degree is only determined by the percentage of hemoglobin, the reduction of which may be greater than that of the corpuscles.

When the number of corpuscles is not far from normal, or greater than normal, this test is superior. As between two tests, in such cases the color test is to be preferred. In an examination of the blood it is important to determine the functional value of the red corpuscles, which bears a close ratio to the amount of hemoglobin in each.

These facts are generally well understood, and I repeat them only as a reminder of their importance for clinical purposes.

It is asserted, and no doubt with truth, that those who practice making frequent examinations of the blood of their patients encounter and diagnose disease not found by others.

In the diagnosis, the use of the hemoglobinometer is as important as the microscope; the modern instruments now supplied are all that could be desired. A microscopical examination may be made quickly and at the bedside if desired, and affords the means of deciding promptly the probable form of the disease present, Instruments for estimating the number of corpuscles per millimeter are also of the greatast value, but the microscope is the instrument of great importance, and a frequent use of it is of great value in both the diagnosis and treatment. By this means the blood changes may be accurately observed, the corpuscles estimated, and their size, shape and color determined. This may be done without staining the corpuscles, and it is a good plan to make the first examination with a comparatively large quantity of blood to determine the tendency of the corpuscles to form rouleaux. It is well to remember the distinguishing characteristics of chlorosis, namely, greater deficiency in hemoglobin in the blood, in proportion to the diminution of red corpuscles. This condition does not obtain in idiopathic anæmia. The corpuscles vary greatly in size, and while the average is below the normal, some are above.

As the severity of the symptoms increases, and in cases approaching the pernicious form, we observe a great number of large corpuscles. Another characteristic is that the corpuscles have a tendency to assume an oval form, and the more severe the type the greater the number of corpuscles having this shape. In most cases, if at all severe, we shall find a mild fever; it is the usual condition in all severe cases—the so-called anæmic fever. It is often difficult to obtain blood from the finger or ear for examination, but after cleansing the tip of the finger, lowering the hand and applying a string or rubber band, we can prick the finger with a fine needle and get a sufficient supply by means of the artificial congestion. It is better, however, to obtain the blood from the ear, if possible. The edge of a clean slide is touched upon the exuding drop, then gently drawn across a clean cover-glass; this method distributes the corpuscles nicely upon the cover-glass, and so thinly that they dry quickly before they have time to become crenated. They may then be fixed and stained by the usual methods for preservation or future reference. As to staining, it is best to adopt some one of the many useful formulas for double staining and stick to the one that gives best results. A red stain for the corpuscles, and a dark green for the white. This gives a nice contrast, and may be easily photographed by using a Carbutt orthochromatic or color sensitive plate.

In the treatment of severe anæmia I should place rest as of first importance. I have seen many cases where all therapeutic treatment had failed, and when placed in bed for a while the patient would respond quickly to medicines. Attention to the secretions, the diet, the skin, the mental condition, is all-important. The great therapeutic agent, and the one of the greatest virtue in these diseases, is an assimilable preparation of iron; the next best agent in this class of cases *is arsenic.* Therefore a combination of these two excellent agents combined with manganese produces a superior preparation as an iron tonic and reconstructive. Mr. H. A. Cassabeer of New York has placed before the profession this excellent combination: Liq. Feri et mangani peptonate with arsenic. My attention was first called to the preparation by a brother practitioner, and from the formulæ was convinced that it was a preparation of superior merit, and have used it with gratifying results.

The following are a few cases illustrating its value as a reconstructive:

Case 1—General anæmia in a young girl of 16 years. When first seen she was pale, thin, and was badly constipated. There was almost constant headache, and she had but very little appetite. She first menstruated in her fourteenth year, but has not been regular for over a year. The corpuscle count was 3,000,000 to one c. c. Liq. Feri et mangani pep. with arsenic in tablespoonful doses three times a day after meals was given for a period covering four weeks. In two weeks after beginning the treatment she began to have some color in the lips, and from that time on rapidly im

proved in all symptoms. and now has no trouble except with the menstrual function. The blood at last count, one week ago, was 4,000,000 to one c. c.

Case 2.—M. L. B., female, aged 19, had been excessively anæmic for over a year; complained of headache, ringing in the ears, dizziness, neuralgic pains; no organic lesion. Blood showed 7 per cent. hemoglobin, and 3,520,000 corpuscles to a cubic millimetre; the corpuscles themselves were changed, some being microcytes and poikilocytes. After twenty-three days on Liq. Feri et mangani pep. with arsenic the treatment was stopped, as the hemoglobin was normal in amount and the corpuscles had increased to 5,000,000 to each cubic millimetre. The result in this case was the most pronounced of any.

Case 3.—Patient 17 years old; has had leucocythæmia for seven years; skin parchment color; had not eaten a decent meal in all that time; was fond of pickles, candy, ice cream, cakes, etc.; practiced all day on piano; very irritable and gave no one a civil answer. Came under my observation one year ago, and henceforward came in at intervals of ten days, more or less. Neglected to make blood count, but at once put her on Liq. Feri et mangani pep. with arsenic in regular doses. She at once began to improve; has now gained 17 pounds in weight; takes long walks; has lost taste for pickles and sweets, and eats good, hearty food; sings at her work; has very rosy cheeks, and is amiable in temper.

Case 4.—B. M., female, aged 24; suffering from primary anæmia and menstrual disturbances. No organic lesion. Hemoglobin 10 per cent.; corpuscles 3,000,000 per cubic millimetre. After taking the preparation forty-three days the amount of hemoglobin remained at 10 per cent., but the corpuscles had increased 1,200,000 per cubic millimetre.

Case 5.—Joe G., age 9 years, patient "Park View Sanitarium." History of an acute attack of appendicitis. Thin, anæmic and nervous. Appendectomy. Gave Liq. Feri et mangani with arsenic 26 days. First count, 2,544,000 red corpuscles to the cubic millimetre; second count, 3,950,000 red corpuscles to the cubic millimetre. Gained fifteen or twenty pounds in weight and is completely well.

Case 6.—Mrs. W. H. P. of N. C.; married; aged 34; patient at Park View Sanitarium. Symptoms of long standing; ovarian and uterine trouble. On examination, laceration of cervix and complete laceration of perineum, both of many years standing; patient pale and very anæmic; operation; both lacerations repaired. Congested ovaries reduced by the galvanic current; daily seances of 20 minutes each. Gave Liq. Feri et mangani pep. with arsenic in tablespoonful doses, and after 18 days much improvement noticeable. First count, 3,200,000 red corpuscles to the cubic millimetre; second count, 4,310,000 to the cubic millimetre. Recovery and complete relief from symptoms.

OUR RECENT EPIDEMIC OF SMALL-POX AND VACCINATION.

By F. J. RUNYON, M.D.,
Clarksville, Tenn.

1. Vaccination.
2. When to vaccinate.
3. How to vaccinate.
4. What virus is best.
5. What protection is afforded.
6. When to revaccinate.
7. Treatment of vaccination sores.

Vaccinia, as held by Jenner, is a modified form of small-pox. As proof of this calves, inoculated with small-pox after three removes, yield a lymph which, when inoculated upon man, produces typical vaccinia. It is not generally used till after five removes. (Copeman, Vaccination.) Vaccinia is a definite constitutional disease, with a local manifestation, due to (probably) a specific germ which intentionally or accidentally has been inoculated upon the human being. It has not yet been ascertained. It should, to afford proper protection against small-pox, pursue a definite course, leaving behind (*usually*) a definite mark. This mark or scar may or may not present the peculiarities of the vaccine disease and yet the person absolutely immune—the immunity being the result of the vaccinia only. Vaccinia should, according to my observation, be *marked enough* to leave a *good* scar, though from trauma, or infection, or both, the peculiarities of the vaccine scar may be entirely absent. This, if entirely removed, would not affect the immunity of the individual. The local and constitutional symptoms of vaccinia are mildest in infants, more marked in children, and most severe in adults.

Vaccinoid is an atypical vaccinia due to the vaccination of an individual already partly immune by a previous vaccinia (or small-pox), poor quality of virus, or, perhaps, natural immunity to the vaccine disease. When due to poor quality of virus, of course the subject is not rendered immune to small-pox or vaccinia, but when due to the other causes mentioned it may or may not protect, though as a rule it does. If protected subsequent vaccinations (for months or years, according to the duration of the immunity conferred) with pure virus gives absolutely negative results.

When to Vaccinate.—At birth, if probability of exposure to small-pox infection exists. If not the best time, as stated by many writers, is at the age of three months. The local and constitutional symptoms are then much less severe, and, if done then, the objections to vaccination would be fewer. If vaccination is not done at this age, the age the nearer to it the better. Of course, if the infant be not well, the operation should be deferred according to the good sense of the physician. The usual site selected upon the arm is, in my opinion, by far the best—because safest and less annoying.

How to Vaccinate.—There are aeveral good ways. I think the best is as follows: After cleansing the hands, cleanse arm with soap and water and then with alcohol. Sterilize point of cambric needle in the flame of an alcohol lamp, and scratch a small square upon the site selected, and cross it twice, thus: |+|. Try not to draw blood, but scratch down to the point where it appears ready to start. Should blood flow, remove it with sterilized gauze, litmus, or blotting paper. Then dip point in sterilized water, flirt off excess, and rub well into denuded points, and after it is dry (not by artificial heat) cover with (preferably) sterilized gauze, or clean linen. I believe it better to keep the point so covered (loosely) during the evolution and course of the disease than to use shields, as these constrict the capillaries of the skin, thus increasing the congestion, and become soiled, thus increasing the chances of infection.

When the person has been exposed to small-pox, or is liable to be, before vaccination be again done, should the first not take, vaccinate in not fewer than three different places, and here use, if obtainable, the humanized virus, as it is most rapid.—Welch (Hare's System of Therapeutics, Vol. II, page 244).

What Virus is Best.—I believe with Dr. Welch (Hare's System of Therapeutics, Vol. II, page 244) the humanized virus is best, though its use now is hardly practicable, owing to unwarranted prejudice, due largely to misrepresentation. I believe it is best:

1. Because (Welch) its action is quicker—so protection is sooner secured.

2. Because (it is poesible) its protective power is greater. I am by no means sure of this, and experiment, or extended experience, must settle the point.

3. Because the immunity conferred by it, I believe, persists longer. While I feel sure of this point, I am not *certain* it is true. I am thirty-eight years of age; was vaccinated when a child with humanized lymph, and though vaccinated between forty and fifty times since then there has never resulted the mildest vaccinoid. This is not an isolated example; a number of physicians have related to me a similar experience. I further *infer* this from noting the mildness of the cases of varioloid occurring in some, after exposure to small-pox, who were *years ago* vaccinated with humanized virus. I believe the next best virus is the bovine (dried) upon bone slips. The few germs present upon carefully prepared points will be easily destroyed by the cells of the tissues. I have never seen any serious result from the dried virus. Such, carefully prepared, will contain very few extraneous micro-organisms, and these will rarely, indeed, give rise to any injurious results. Yet it is to be devoutly hoped a vaccine lymph universally free of pathogenic bacteria and yet retaining its full potency is one of the possibilities of the near future. When this is obtained the last prop of the anti-vaccionist should be removed.

The gylcerinated virus, I believe, to be a failure—

(1) Because some of it does not protect. (Report of cases in my paper read before State Society, April 10th, 1901, and published in August Memphis Medical Monthly.)

(2) Because some of it causes more severe local and constitutional disturbance than the "points." (Pediatrics, Vol. IX, No. 5.)

(3) Because (personal communication from Dr. Welch) it has been known to cause sore arms in persons *known* to be immune to small-pox.

(4) Because, unless used hypodermically, it is less certain to take. I do not believe the hypodermic method safe, though I have had no experience with it.

(5) Because vaccination with it requires so much more time.

(6) Because it (that used by me) is so tardy in its evolution.

Glycerine was first added to vaccine lymph as a *preservative* by Mr. R. Cheyne in 1850. (Said to have used this successfully after keeping it six months.)

It was first added to lymph as a diluent (*to increase the quantity of virus*) by Muller, of Berlin, in 1869, and by Copeman, of London, *to destroy extraneous organisms*, in 1891. So the term "glycerinated," as now understood, has only been in use since the latter date. (Vaccination, Copeman.) From my study of glycerinated lymph I believe when glycerine and water are added in sufficient quantity and purity, and then kept sufficiently long for the glycerine to destroy all extraneous organisms, the efficacy of the virus is impaired or destroyed. From such virus one seldom sees, according to my experience, typical vaccinia; hence immmnity to small-pox, if it is produced at all, is not so great. From such virus the evolution from the point of insertion is not typical. I have seen it go two weeks or longer before evincing any sign of "take." Then its course is irregular, and *it should not be to afford proper protection.* It should begin to "take" *not later than the fourth day*, and then follow the course described in the books. That it is not necessary for it to go beyond the vasicular stage; that it is not necesary for the arm to be *quite* sore; that an "almost imperceptible scar" is all sufficient, I do not believe, and I speak from personal experience. Of course, when glycerine has not been added in sufficient purity and amount and kept a sufficient time for it to destroy (or impair) the vaccine germs, there is no reason known to me why it should not afford as perfect immunity as that dried upon points, unless its proper action be interfered with by other germs also present, and which may have even multiplied. I find results following vaccination depend greatly upon the *form of virus* used, and especially is this true of *glycerinated virus.* (As an instance of this compare my article, Memphis Medical Monthly, June, 1900, and that of Dr. Guest, Pediatrics, Vol. IX, No. 5.)

The best virus now known to me is, in my opinion, the humanized or that dried upon bone slips. I believe these the safest to use till the status of the other forms has been thoroughly established. When in the glycerinated virus the extraneous germs have been killed, I

believe the vaccine germs have also been killed or their efficacy greatly impaired.

Protection Afforded.—*Typical vaccinia*, from whatever form of virus, is protective—perhaps equally protective—and will give immunity to small-pox almost, if not as complete, as will a previous attack of variola. (See Twentieth Century Practice, Vol. XIII, page 524.) But both Marson and Simon expressed the opinion, before the Parliamentary Committee in 1871, that the protection afforded by an attack of small-pox against a subsequent attack was greater than that afforded by vaccination. A recent vaccinia, from reliable virus, will affard better protection against small-pox than will a previous attack of this disease "passed through at some more or less remote period." (Twentieth Century Practice, Vol. XIII, page 524.) I have too much respect for the intelligence of any regular physician to argue that vaccination is protective; it is only the *degree* of protection I wish here to discuss. "Morton refers to the statistics of Welch, who states * * * that in twenty-three years' service in the Small-pox Hospital he has never seen a case of small-pox in any one of the attendants who had been revaccinated on entrance into the hospital. Almost equally favorable results were obtained at Homerton Fever Hospital and in the investigation of nurses instituted by the Epidemiplogic Society of England." (Year Book Med. and Surg., Gould, 1896.)

"Dr. Marson, during forty-two years of duty as physician of the London Small-pox Hospital, has never observed a single case of small-pox in the officers and employes of the hospital who are revaccinated when they enter the service and who are constantly exposed to infection." (System of Therapeutics, Hare, Vol. I.)

This gives an idea of the protective value of proper vaccination, though under less favorable conditions we cannot expect to obtain quite such results.

A few days ago I asked Dr. Robinson, of Guthrie, Ky., if he knew of a single instance of a person, depending entirely for protection upon vaccination with glycerinated lymph and thoroughly exposed to small-pox, who had failed to contract the disease, and he said he did not. There were 690 vaccinations with this lymph at Guthrie last year, and since then many, who were apparently successfully vaccinated with it, have since had small-pox. We have had this year fifty cases of small-pox in this county, and many of these had been *vaccinated* only last year with this virus. Of the fifty cases there were fifteen deaths. Evidently the virus from *some cause* was a failure. A proper virus should have given almost, if not complete, immunity. While the glycerinated virus did not protect, the day I was talking to Dr. Robinson there had just returned from the pest-house a woman and her child whose vaccinations had afforded them perfect protection. The woman, with her child, had been staying with her husband, who had small-pox. The wife and child had been vaccinated a short while before the husband was taken sick, but the

doctor did not know by whom. Said he knew it was not done with the glycerinated virus, as they had none of it in Guthrie this year.

When to Vaccinate.—The infant should be vaccinated as stated above, and revaccination should be done thereafter every four or five years. Of course, revaccinate at intervals of a few weeks or months when exposed to small-pox. By this method vaccinias will never again (with the rarest exceptions) result, but vaccinoid, sooner or later, will be the consequence, modified according to the immunity conferred by the previous vaccinia, though this sometimes protects for life. By following this plan the arm will never again be sore enough to cause any inconvenience, and there will be no constitutional symptoms. On the contrary, if revaccination be deferred ten to twenty years or longer—when immunity has been lost or greatly diminished— a typical vaccinia may again ensue and the person disabled on this account for a few days. Of course this plan is not generally practicable; but when the physician is expected to look after the interests of his patients as he does his own children, this is the ideal plan. As people understand this, many will also adopt it.

My children always want to be vaccinated, and they do not know what it is to have a sore arm from this cause, as theirs have never been sore enough to trouble them since they were babies, and surprisingly little trouble then. I have never seen this plan advocated, but it is productive of the happiest results. Both of my children have had vaccinia and vaccinoid—once each—vaccinoid occurring in both $11\frac{1}{2}$ years after the vaccinia, and in both it was most insignificant. They were vaccinated originally with bovine virus upon bone slips.

Treatment of Vaccination Sores.—Sometimes at the height of the inflammation following vaccination—eighth to twelfth day inclusive—the inflammatory action is excessive and requires proper treatment. This is usually the fault of the patient—infecting the pustule by scratching or in other ways, though it may be due to the virus or to the constitutional condition. Some forms of virus are *much* more prone to cause excessive inflammation than others. Whatever the cause the person should remain at home and give due attention to the details of treatment prescribed. The diet should be suitable to the individual, light in the sthenic cases and full with stimulants and tonics added, if necessary, in the asthenic. In either case the skin, kidneys and bowels should receive proper attention. Hot fomentations should be applied to the arm, and then (if the whole arm be swollen) the acutely inflamed area should be covered with a moist, antiseptic dressing, and the arm, from fingers to shoulder, wrapped in cotton and bandaged over, or twice a day if it seems indicated. Rarely, indeed, will this be necessary; twice only in my experience. Normal vaccinia needs no treatment.

Ulcers following vaccination and requiring treatment are very frequent and, it seems, their treatment is not as well understood as it should be. When the doctor is consulted, there is usually an ele-

vated red surface, capped by a large brown scab, under which pus is constantly forming. The patient (and sometimes excellent physicians) has usually tried not to dislodge this scab, thinking thereby to hasten healing. Sometimes the doctor has been adding to the difficulty of cure by applying over all this some bland or antiseptic powder. Proceed as follows:

1. Bathe arm in warm bichloride solution 1 to 2000, and *remove the scab.* (It comes off easily. I, of course, refer to a condition existing after the twenty-first day.)

2. With sterilized scissors, curved on the flat, trim off the granulations (proud flesh) down to or a little below the surface of the epidermis. This causes no pain; proud flesh has no nerves. It may be dispensed with in nervous persons, but it hastens healing and leaves a nicer scar.

As soon as bleeding stops:

3. Apply nitrate silver, ten grains to the ounce.

4. Apply on gauze—unguentine—and bandage lightly.

5. Prescribe nitrate silver, two grains to the ounce, and have patient *remove the scab*, bathe arm, apply the silver solution, and then the urguentine once each day, and the arm will be well in a very short time. The unguentine is not necessary, but *very* beneficial. This same treatment is applicable to all similar ulcers.

Sometimes when the scab is removed a hole is left; then apply the silver solution and dress with unguentine.

In conclusion, I would like to suggest to some one situated favorably for such experiments, that he test the different products upon the market by vaccinations and revaccinations, and report the results obtained. But unless the name of the producer is given in each instance, let me state in advance, the result will be of but little real service to the profession or to the public. I do not see why physicians should not be allowed to speak with perfect freedom upon matters medical; to condemn as well as to praise. To me it seems the welfare of the medical profession and of the public *demands it.*

REPORT OF TWO CASES OF HEMAGLOBINURIC FEVER.*

By WALTER SHROPSHIRE, M.D.,

Yokum, Texas.

In reporting these cases I shall, for the sake of brevity, omit features of family history, previous illness and the like that do not bear directly on the diagnosis or treatment.

On March 24th I was called to see Mrs. S. C., aged 20; dark blonde, native Texan, who had been suffering from repeated attacks of quotidian malaria since June, 1900. Not more than twenty-eight days had intervened between the attacks. She had broken them with quinine and "chill tonics." On March 22nd, after an

* Read before the South Texas Medical Association, Houston, Texas.

interval of twenty-eight days, she had a slight chill about noon, which was followed by a light fever, and she commenced to take "chill tonics," and on the 23rd she had an exacerbation of fever without chill; on the 24th, about noon, she had a severe chill, followed by high fever. I saw her at 1 p. m. and found a malarial cachexia, with both spleen and liver enlarged and tender; with a temperature of 39,6° C., pulse 122, and respirations 24. The case being clearly one of quotidian malaria, I prescribed acentanilid compound to reduce the fever and one-half grain of calomel every two hours until three grains had been taken, and one gram of quinia morning and evening.

On the 25th, at 4 p. m., she had a severe chill, followed by high fever. I ordered one gram of quinia every six hours.

On the 25th, 5 p. m., she had a severe chill, and at 6 p. m., when I saw her, she had a temperature of 40.4° C.; pulse 132, weak and threadlike; cramping in abdomen and in the back over kidneys; vomiting every few moments, and skin dark and muddy in appearance. She was very restless and wore an anxious expression, and was complaining vehemently of cinchonism. The treatment was continued with the addition of three grains of methylene blue every three hours. At 11 p. m. she voided twelve ounces of dark, bloody looking urine which contained numbers of granular casts and a quantity of granular detritus and abundant albumen, but no blood cells.

Not being prepared to test for hemaglobin and feeling perfectly confident that it gave the red color to the urine, I made no efforts in that direction. At this time her temperature was 38.2° C.; pulse 132, weak and compressible. She had been suffering for thirty minutes from cramps in the abdomen. Skin became more yellow. She was quite relaxed and bathed in perspiration, while the sclera were a brownish yellow. She was very restless, and vomited frequently and wore an anxious expression. I gave a hypodermic of atropin 1-200, morphine one-eighth, and ordered sinapisms to abdomen.

On the 27th, 4 a. m., she had a chill or rigor without an increase of temperature, and voided eight ounces of dark urine about like that previously. I gave quinine grains twenty hypodermically every five hours and ordered saline purge per rectum. At 10 a. m. she voided one-half pint of dark urine, but some lighter than that passed at 4 a. m. and 11 p. m. Temperature, 38° C.; pulse, 120; vomiting mitigated. Treatment was continued with the addition of food every two hours. At 2 p. m. urine was still clearing; temperature 37.7° C.; pulse 107 and very weak; skin very much relaxed and highly jaundiced; she had ceased to vomit and complained less of cinchonism, though deafness seemed increased. Treatment was continued with the addition of tr. ido. co. M. 10, and alcohol one-half ounce every four hours. After this all symptoms grew better until the 28th, when she complained of pain from the quinine hypo-

dermically. I substituted one drachm in acid medium per rectum every twelve hours. Later the cinchonism and vomiting increased so much that I suspended the quinine, and on the 31st the chill recurred, followed by a temperature of 41° C., and a pulse of 140, but with no return of the hemoglobinuria. A prompt return to the quinine, in twenty grain doses, given hypodermically, arrested the attack and the patiet was discharged April 4th practically well.

Case 2.—On April 11th I was called to see Mrs. A. M., aged 22, brunette, native Texan. She had suffered with repeated attacks of malaria since July, 1900, some times quotidian and at others tertian. She had been free from a paroxysm about a month, when at noon on April 8th she had a slight chill, followed by a light fever; and on the 9th she had a repetition of the same. On the 10th she had a severe chill, followed by high fever, and in the evening passed some "black water" that was thought to be the menstrual discharge. On the 11th she had a severe chill for two hours, followed by high fever. The treatment had been laxatives, including calomel, which had acted well, and twelve grains of quinine on the 8th, sixteen grains on the 9th and twenty grains on the 10th, in divided doses. I saw her at 7 p. m. and found a malarial cachexia with a somewhat enlarged and very hard and tender spleen; a liver very much enlarged, which was also tender. Her skin and sclera were very much jaundiced, and she was very restless and vomited frequently. Temperature 39.2 C.; pulse 120, and respiration 22. A specimen of urine showed numerous granular casts and detritus and much albumen, with specific gravity 1019.

The case being clearly one of hemaglobinuric fever, and as this was the second pernicious paroxysm, I gave her at once twenty grains of quinine hypodermically, combined with one-eighth ot morphine and 1-200 of atropine, and ordered twenty-five grains to be given per os in five hours, followed by a lemonade made of hydrochloric acid, and directed that she be fed every three hours on fluids.

On the 12th, at 8 a. m., patient had vomited nearly all night and at this hour she voided about eight ounces of dark urine, which was some lighter than the evening before; she had retained but little food. At noon temperature was 38.4° C., pulse 120, respiration 20, skin and sclera were very dark yellow, urine free of red coloring matter, patient well under the influence of quinine and vomiting much mitigated. I gave one-fourth grain of calomel every half hour until two grains had been taken, and ordered one gram of quinine to be followed by acid at 7 p. m. and 7 a. m.

On the 13th, at 8 a. m., the patient had vomited nearly all night and was so nauseated at 7 a. m. that she could not take the quinine. The urine still had the color of port wine and contained more casts than formerly. I ordered fl. extr. buchu one drachm, pot. acetate gr. five, four times a day, and tr. ido. co. m. eight minims, and port wine one-half ounce every two hours, sinapisms to the stomach, and

an enema of salts. The patient had a recurrence of paroxysm at 3 p. m., but without a chill, the fever running up to 39.8° C.; the urine was quite dark again and scanty. Sclera and skin very dark yellow; the skin over the face, especially cheeks and forehead, becoming black on the surface, apparently a necrosis of the upper layers of the skin. Temperature 39.8° C.; pulse 132. The diuretic and iodide and wine were continued and thirty grains of quinine given hypodermically.

On the 14th all the symptoms had improved. Temperature 38.8° C. Treatment continued. Upon each succeeding day the temperature ran higher, with the afternoon temperature one to two degrees higher than in the morning, evidently due to some septic condition. There were no further indications of malarial paroxysms, and the urine was clear and rapidly becoming free of casts and albumen. On the 20th it was normal and her temperature ran to 40.8° C. in the afternoon, from which it gradually reduced until June 1st, when I discharged the patient with an evening temperature of 37.6° C.

In selecting these cases for your consideration I took those in which the effects of treatment was most manifest and in which indications for a different treatment, if such ever exists, were most in evidence.

I take for granted that every member of this association recognizes hemoglobinuric fever, hemorrhagic malarial fever, swamp fever, black jaundice or black water fever of the Europeans as a pernicious malarial fever in which the urine is laden with the coloring matter of the blood, and of which the malarial parasite is the active causative agent. The other ætiological factors are no doubt the liver, spleen and kidneys; hence the rationale of all treatment should be to kill the plasmodiæ and restore these organs to their normal condition. In this there is a wide divergence of opinion, the profession being about equally divided; and only by logical consideration of each theory of treatment and careful observation of its effects and results can we ever reach the correct treatment. All physicians alike commend quinine as the treatment par excellence for malaria in all forms except this under consideration, and here one side maintains that quinine in large doses is essential to destroy the parasite, while the other contends that quinine adds an element of danger by increasing the irritation of the kidneys, or even causing the hemaglobinuria. To those of us who take the first position there is a serious obstacle in proving that quinine in conjunction with this form of malaria will not produce hemaglobinuria, for the reason that "this form" never exists till the hemaglobinuria is present, and our only hope of dethroning the results of experience, which indicates that quinine produces it, is to show from experience that quinine will not produce it, and to that end I desire to invite your attention, especially to the course of Case No. 1, where up to the 26th the paroxysms were benign and occurred every day, though the patient was taking small quantities of quinine until the 24th,

when she took thirty grains, and on the 25th forty-five grains. Then on the 26th the dose of quinine had reached as much as forty-five grains daily, and the patient was complaining loudly of cinchonism, the disease assumed the hemaglobinuric form. This is exactly the kind of experience that is brought forward to prove quinine will produce hemaglobinuria, and if we stop here and view it from a clinical standpoint alone, the testimony seems enough to convince most any one. But when we follow the case further and see that in such cases the administration of quinine has been increased to 100 grains per day, and the urine instead of becoming worse had cleared up promptly, what can all unbiased minds conclude under such circumstances except that enough of the forty-five grains of quinine had been absorbed to prevent the development of malarial poisoning; the poison which we know has produced this condition in maey uncinchonized patients, here it had reached that degree of toxemia necessary to produce the hemaglobinuria; but when enough quinine had been introduced into the blood to stop the proliferation of malaria and thus eliminate it as a causative agent, the condition passed away! If quinine was the cause of the hemaglobinuria when she was taking forty-five grains per day, would it not have increased when the dose was more than doubled? The fact is that enough quinine had not been absorbed to stop the production of toxins which had reached such a degree that the renal epithelia were poisoned into the elimination of hemaglobin in their effort to clean the blood; and what was the result: as soon as sufficient quinine had been put into the blood to kill the plasmodiæ and stop their production of this poison the condition passed off by the "*vis medicatrix naturæ.*"

In this connection let me cite Case 2, where on the 8th the patient took twelve grains of quinine, on the 9th sixteen grains, and on the 10th twenty grains, which, according to the anti-quinine advocate, produced the hemaglobinuric form. On the 11th she was given twenty grains hypodermically and twenty-five grains per os, making a total of forty-five grains, which did not aggravate the condition, but caused the urine to clear up nicely and prevented the recurrence of the paroxysm on the 12th. When she took only fifteen grains per os the return of the hemaglobinuria followed the next day; but with thirty grains hypodermically it disappeared and remained so under the daily dose of thirty grains. What conclusion must be drawn then? That quinine in fifteen to twenty grains a day produces the hemaglobinuria and in thirty to forty-five grains does not? Such would have been the conclusion of the anti-quinine advocate in these cases, however absurd it may seem. Again, referring to Case No. 1, you will note that on the 31st there was a return of the chill and fever without hemaglobinuria and the use of twenty grains every five hours did not induce it. Why not, if quinine is the cause?

Permit me to call your attention to another feature noticeable in these cases which is of value in treating the disease. Case No. 1 was complaining vehemently of cinchonism while taking forty-five grains of quinine per day, per os, but when given 100 grains per day hypodermically the vomiting grew less and all complaints ceased. Again, on the 28th, when I changed the method to rectal enemas of quinine, the vomiting returned, and on the 31st when twenty grains hypodermically was resorted to this symptom was not annoying. In Case No. 2, when on the 13th and thereafter only hypodermics of quinine were given, neither vomiting nor other symptoms of cinchonism were complained of. These and other observations of the kind have convinced me that the greatest causes of vomiting and other disagreeable signs of cinchonism are due to the contact of the quinine with the intestinal epithelium, and not its effect on the nervous system; and this effect may even be had from an alkiline solution where no absorption of the quinine takes place, hence the symptoms ordinarily reckoned as cinchonism do not in any degree measure the quantity of drug absorbed. Further than that, in many cases of chronic malaria, where pernicious forms supervene, the contents of the stomach are alkaline and no absorption of quinine will be had except when given in an acid medium or when the contents of the stomach are rendered so by the administration of an acid.

In Case No. 2 after the 14th, when there was a temperature of 38.8° C., the temperature ran higher, with evening excess over the morning of about one and one-half degrees, bearing no indication of being due to recurrent sporulation of the parasite, but evidently septic, and I believe due to absorption of necrotic spots in the liver and spleen which autopsies show in fatal pernicious cases. I can not account for this in any other way, and this seems to me most plausible.

Since I hope to present to the association or the profession at large a more thorough and exhaustive paper on this subject, when I have accumulated enough data in the form of reported cases, I will forego further comment on these, and will conclude by saying, that so far hypodermic administration of quinine in twenty to thirty grain doses twice a day offers the most rational and beneficial treatment for this disease.

THE MANAGEMENT OF FEVERS.*

By I. N. LOVE, M.D.,
New York,
Member Board of Trustees, A. M. A.

I feel highly honored in having been invited to read a paper before this Society, thoroughly representative as it is of a local profession that is surpassed by no other body of medical men in America, or any other country. I have selected to discuss in an informal way the management of fevers, and since selecting this topic I find that another essayist for the evening is to discuss "Is there a continued fever distinct from malaria and typhoid fever?" (1) I shall, in the views which I voice, touch upon this question.

Woodward, of "Typho-malarial fame," observed and wrote wisely and well, but arrived at conclusions which were too broadly presented, and gave us an addition to our nomenclature which is confusing and erroneous, and yet careful observing practitioners, of the Mississippi Valley at least, know that he graphically and correctly described the conditions, if not the theories, frequently confronting them in their regular autumnal work. It is being pretty clearly established that malaria, due to the plasmoidium of Laveran, and yellow fever are carried into the human blood by certain breeds of female mosquitoes; whether this is the only medium remains yet to be determined. It has also been established by good authority that we may have a double infection, that is, an individual may be the victim of typhoid infection, plus malaria, though it does not occur frequently.

On general principles, the year around, everybody eats in excess, but this is doubly so during the hot months of the summer and fall, when the hydorcarbons are not needed for heating purposes. As a result at this season of the year the majority of the population in the warm zone are ripe for an interruption of metabolism, explosive disturbances, due to perverted secretions, all of which will not only produce continued fevers of shorter or longer duration as the case may be, but invite and render the victim susceptible to infections and greatly aggravate their virulence.

How many of the majority of us, after ten years of practice, are not able to treat seventy-five per cent. of our fever patients, particularly among children, without the aid of quinine, and in utter disregard of the germs of Laveran or Eberth, they being fevers in fact due to catarrhal disturbances of mucous membranes and accumulated ptomaines, fermenting food and excretory matters in general. Those who practice at all among the Germans meet numerous cases of fever which the mothers and gross mutters very graphically and correctly attribute to a "spoilt stomach." All such cases are very promptly relieved and cured by a complete empting of the alimentary

* Read to the Chicago Medical Society by invitation at a meeting given in honor of the Board of Trustees of the American Medical Association, Feb. 27th, 1901.

canal and energetic attention to all the eliminating organs, coupled with judicious starvation for some days, and a gradual return to easily digested food.

I am strong in the belief that many of the autumnal fevers which last for weeks, and are sometimes fatal, are so only because they are too frequently interpreted as typhoid fever, not purged at all, and in many cases the secretions are checked and further perverted by mis-applied cold baths, when, had they been treated in the classical way of our fathers a few decades ago, by receiving a "puke, a purge and a sweat" and proper withholding of food, they would have been convalescing in a few days.

So, too, I am certain that the so-called malignancy and often fatality of typhoid fever, scarlet fever and other infections are dependent upon the same causes. I can the better illustrate my point by citing a case of typhoid fever in a robust boy of twelve, growing rapidly, who was an enormous eater, eating each day as much as two average men would do. I saw him on the sixth day, and his temperature had ranged from the start from 104° to 106°, except for a short time, after cold baths, which, by the way, were very distressing to him, uniformly raising a riot, and which had been given by two skillful and energetic trained nurses, under the direction of the three conscientious, up-to-date attending physicians. Being familiar with the boy's voracious hungry habits, and that very probably he had for years averaged two large evacuations from the bowels daily, I was, on being placed in charge, anxious to determine the condition of his secretions. I found that in the beginning he had been given a few paltry pellets of 1-10 of a grain of calomel, which had been stopped when his bowels were reported as having been moved. On examination I found his bowels greatly distended by gas and large masses of fecal matter. After washing out the stomach with a pint of hot water I gave at once a three-grain dose of calomel and soda, followed in three hours by another. I personally gave a soap and water enema, using, as I always do, a large size soft rubber male catheter on the end of the syringe nozzle, until the bowels were collapsed, being absolutely empty. During this time I prevailed upon my patient, he being very intelligent and helpful, to drink a tumblerful of water every half hour. Any disposition to nausea was overcome by ice cloths to the mouth and mustard leaves to the pit of the stomach. The liberal use of water, the flushing of the alimentary canal from both ends, as it were, resulted not only in emptying the canal but in flushing the kidneys and arousing free sweating. Intestinal drainage was maintained from time to time thereafter by two to four ounces of apenta water washed down by a glass of hot water.

After the gut was emptied and active elimination was secured, the temperature fell to 102.5°, and ranged from 101 to 103 degs. for ten to twelve days. Fever had gone at end of fifth week. At no time was a cold bath, which had been terribly demoralizing when applied.

required. Sponging off with tepid water and a little alcohol was directed once a day.

Had the indications been promptly met in the outstart of this case, the illness would have been very light, as it was a mild infection. Had the management of his case continued as during the first week, he would, I think, surely have died, not of typhoid fever, but typhoid fever emphasized and aggravated by auto-infection and intestinal distension.

That we may have continued fever of many weeks' duration due to sewer gas poisoning is evidenced by many cases which I could present from my case book, one, however, will suffice.

D. H., aged ten, at end of third week of low continued fever, came under observation, temperature ranging from 100 to 102.5 degrees, thorough interrogation eliminated typhoid and malarial fever as causative factors, and we applied the convenient term gastric fever in lieu of a better one, the secretions generally being torpid and perverted.

Casually one morning, at end of my first week's service, and the fourth week of fever, sitting by my patient, close to the head of her bed, I discovered a terrible odor, which I promptly traced to the furnace register in the wall immediately back of her low bed. Following this odor to its source, I found the furnace pit in the graveled and cemented cellar below filled with sewage from a broken sewer pipe which drained the water closets and house in general. The floor being a hard cemented material was not penetrated by the filthy sewage, and the only exit was the furnace pit, the furnace not being in use, the conditions were not discovered.

This nursery room was small, the furnace register being close to the head of the sleeping child, and this particular heat pipe had not been closed by damper in the cellar, so full opportunity was given to the potent poisoning of the child, whose power of resistance was not sufficient to cope with the sewer gas.

Had the discovery not been made we would have gone on blindly for an indefinite time and the child would more than likely have died. A removal of the patient to another house with ideal sanitary conditions, a sunshiny room, warmed when needed by an open wood fire, full ventilation, gentle stimulations of all secretions, an acceptable highly nutritious diet, with aid to digestion, after several weeks secured a perfect recovery.

In the victims of fever, whatever the age, whether the fever be due to infection, perverted secretions, autoinfection, sewer gas or what not, we must keep ever in mind the gouty diathesis, both hereditary and acquired, and direct our treatment accordingly. In brief, in the management of fevers, whatever the origin or cause, I commend the following points:

1st. Prompt potent purgation, even though attendants report bowels as being open. A diarrhea is often nature's effort to rid itself of offending materials. Safe, gentle intestinal drainage should be maintained throughout the conduct of the case.

2d. Earnest regard for strenuous activity of all the eliminative organs is essential—and let it not be forgotten that the lungs are the most important of the eliminating organs—and an abundance of oxygen is a *sine qua non*, and after this in degree of importance comes water in abundance.

3d. Intelligent attention to nutrition demands the complete withholding of all food in the beginning for several days, later only the blandest, the most digestible articles in small quantities. The pushing of food cannot be safely done until the secretions have all been corrected and it is evident that the digestive organs are in no way crippled. Graves, when he said that he desired placed upon his monument, "He fed fevers," did not mean that it should read "He gorged, he stuffed fevers."

4th. Temperatcre can best be held down and the nerves tranquilized to the safe point by bathing, as in everything else, the pleasant and the easy way is the best. The stereotyped rigid water not only flushes the excretory organs, but cools the fever, and the cool bath also acts in this double capacity.

5th. In the handling of our fever and other patients we have adopted to advantage many ideas from the fanatical class formerly known as hydropaths, and so we may, to the great good of our clients, apply gentle manual massage, and even many of the manipulative methods of the so-called osteopaths, many a jumping joint, tired muscle, or restless nerve can thus be soothed to rest, and during convalescence a more industrious application serves as a stimulant and tonic.

6th. Let it be remembered that the sweetest word in our language is "rest." Sancho Panza said truly, "Blessed be the man who invented sleep." The doctor should ever keep in mind the words of the sacred book, "He giveth His beloved sleep," and sleep, complete rest at proper intervals, rest, physical and mental, are vitally essential to the victim of fever.

7th. The "Big Four Route" to health in all diseases, including fevers, is, first, elimination; second, disinfection; third, nutrition, and judicious nutrition means little or no food during acute stage of disease, including stimulation; fourth, tranquilization—rest.

8th. We should not be so absorbed with the material methods of relief as to ignore the psychic. The latest breed of "fool fanatics," victims of delusion, for revenue chiefly, are giving us many "cues," and we should read correctly the lines which follow after.* It is our duty to study this question thoroughly, tolerantly, realizing to the fullest the power of mind over matter.

No matter what the age of our patient, we should be able to absolutely command or lead him in the direction of his best good, and we should thus be able to help him to command himself, but to succeed we must first become the complete rulers of our own selves.

* Christian Scientists.

Josh Billings, the humorist, expressed it well when he said, "I have often thought if I were a doctor that I would treat my patient and let his disease alone." We should study disease not less, but man more.

In closing permit me to quote a thought as given by the versatile, scholarly, gentle, sweet and tender "Amiel," who was a patient sufferer for many years, and probably endured much at the hands of many physicians: "Why do doctors so often make mistakes? Because they are not sufficiently individual in their diagnosis or their treatment. They class a sick man under some given department of their nosology, whereas every individual is really a special case, a unique example. How is it possible that so coarse a method of sifting should produce judicious therapeutics? Every illness is a factor simple or complex, which is multiplied by a second factor, invariably complex—the individual, that is to say, who is suffering from it, so that the result is a special problem, demanding a special solution, the more so the greater the remoteness of the patient from childhood or from country life."

"The principal grievance which I have against the doctors is that they neglect the real problem, which is to seize the unity of the individual who claims their care. Their methods of investigation are far too elementary—a doctor who does not read you to the bottom is ignorant of essentials. To me the ideal doctor would be the man endowed with profound knowledge of life and of the soul, intuitively divining any suffering or disorder of any kind, and restoring peace by his mere presence. Such a doctor is possible, but the greater number of them lack the higher and inner life; they know nothing of the transcendent laboratories of nature; they seem to me superficial, profane strangers to divine things, destitute of intuition and sympathy."

"The model doctor should be at once a genius, a saint, a man of God."

No. 101 West 80th Street.

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Georgia Journal of Medicine and Surgery.

Georgia Journal of Medicine and Surgery.

EDITED BY

St. J. B. GRAHAM, M. D. W. E FITCH, M. D.

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HALF-TONE ENGRAVINGS to illustrate accepted articles will be made free of charge, if proper drawings or negatives accompany the manuscript. Electrotypes of such cuts furnished at cost.

PHYSICIANS' WANTS, ETC.—A department will be devoted to the free publication of subscribers' wants, practices for sale, change of location, etc.

SECRETARIES OF MEDICAL SOCIETIES will do us a favor by keeping us informed of dates of meetings of same, etc

MALARIAL HEMATURIA.

In connection with a paper which we are publishing in this issue of the JOURNAL, by Dr. Walter Shropshire of Texas, dealing with the subject of malarial hematuria, it may not be out of place to call attention to a very interesting paper upon this subject which is published in the March issue of the London Practitioner by Dr. Louis W. Sambon, who is lecturer in the London School of Tropical Medicine. This author is very positive that this condition, which is variously known as blackwater fever, bilious remittent fever, bilious hematuric fever, hemoglobinuric fever, and hematuria, is an acute affection characterized by sudden and intense blood breakdown, and marked clinically by irregular paroxysmal fever accompanied by chills, bilious vomiting, and hemoglobinuria. After describing the symptoms which are apt to be present in such an attack, and pointing out that relapses are common, and that the mortality in Africa is sometimes as high as fifty or sixty per cent., he goes on to call attention to the fact that in Greece it is about twenty-two per cent. He believes that the color of the urine is nearly always due to hemoglobin and not to the actual presence of blood itself. But what interests us particularly is what he has to say in regard to the causation of the hematuria and his beliefs concerning its treatment. He points out that there are three views held as to the causation of blackwater fever—the malarial theory, the quinine theory, and the specific theory. As he well says, the

malarial theory finds general acceptance because of the appearance of this condition in malarious regions, because it appears in persons who have previously suffered from malaria, and because of the finding of malarial parasites or the black pigment produced by its existence in such cases. He concludes, however, that one thing is certain, namely, that hemoglobinuric fever not uncommonly attacks persons who have never had malarial disease before, and he evidently believes that this condition may develop as the result of infection with a particular form of malarial parasite.

In regard to the quinine theory, in which our readers will remember we have been interested for many years, he quotes the facts already familiar to us all, namely, that Tomaselli and a number of Greek physicians all preceded Koch in the assertion that blackwater fever was nothing more or less than quinine poisoning, while British physicians have been practically unanimous in protesting against this theory, particularly as quinine, even when given in toxic doses, never produces blackwater fever in healthy persons. Sambon concludes that the explanation of most of the cases in which hemoglobinuria has followed the administration of quinine is coincidence, the patient happening to be infected by a particular parasite producing this manifestation at the time that the quinine was given. That is to say, he thinks that the connection of quinine and blackwater fever is not one of cause but merely one of coincidence.

Finally, it is evident from Sambon's paper that he believes that blackwater fever depends upon a distinct specific infection. He reminds us that hemoglobinuric fever is also found in sheep, goats, horses and mules, and that the symptoms in these animals are identical with hemoglobinuric fever in man. Perhaps this is the reason why in a certain proportion of cases the administration of quinine seems to be followed by so little relief.

It is a somewhat puzzling and an almost amusing condition o affairs that in the London Lancet of March 23 there should be a paper upon blackwater fever by J. W. W. Stephens, in which this author insists most positively that quinine is distinctly harmful in this condition, and he says that no one can doubt that blackwater fever is essentially a malarial intection in which quinine is the most common immediate determining cause of intoxication. As Stephens' paper is based upon the reports of the Malarial Committee of the Royal Society prepared by himself and S. R. Christophers, it must have a certain amount of weight. "Personally (editor Therapeutic Gazette) we believe that malarial hematuria and hemoglobinuria will ultimately be found to depend upon very different causes. In some cases it will be found that the true malarial parasite is the cause of the disease. In other instances it will probably be discovered that an entirely different organism belonging to the same general type of parasites is responsible for the development of this dangerous and much to be dreaded complication."

EDITORS' TABLE.

The McMillan Co., 66 Fifth Ave., N. Y. City, are sending out their announcement of new forthcoming books to be published during the fall. The list embraces the newest works on history and biography, fiction, outdoor life and travel, art archeology and architecture, peetry and belles-lettres, school books, classics, philology, politics, economics and sociology, geography, physics, electricity and chemistry, horticulture, pedagogy, psychology, domestic economy, astronomy, biology, medicine and surgery, theology, and general works. The McMillan Co. will be glad to forward copies of this announcement upon request.

* *

Against Substitution.—The Tennessee Legislature has passed the following act and the Governor has signed it; it is law. Other States should follow the example and at the next session pass a similar law:

An Act to prevent the substitution of any drug in filling physicians' prescriptions by druggists in the State.

Section 1. Be it enacted by the General Assembly of the State of Tennessee, That it shall be unlawful for any corporation, firm or person, or any combination or association of corporations, firms or persons engaged in the business of buying, compounding and selling drugs and medicines to substitute any drug or medicine in lieu or instead of that given to the patient by the physician on the face of his prescription.

Sec. 2. Be it further enacted, That it shall be unlawful for any agent or employe of such person, firm or corporation or association or combination of persons, firm or corporations engaged in the business of buying and selling drugs in this State to substitute any medicine for the specific medicine mentioned in the physician's prescription.

Sec. 3. Be it further enacted, That any person, firm or corporation violating the provisions of this act, or aiding or abetting the violations of the same, shall be guilty of a misdemeanor, and upon conviction shall be fined not less than $25 nor more than $100 for each and every offense.

Sec. 4. Be it further enacted, That this take effect from and after its passage, the public welfare requiring it.

* *

A short time ago we received a letter from Dr. G. Schick, of Long Island City, N. Y., of which the following is an extract and to the point:

"I have a very extensive practice in this city and have had a very considerable experience with many of the newer remedies, and in some instances much more than I have desired. Especially has

this been the case with many inferior preparations which are, both to my patients' and my own great discomfort, frequently dispensed when I order Antikamnia. This, under the fraudulent plea that 'they are just as good.' A damnable practice is the dispensing of the various cheap compounds or mixtures in lieu of genuine Antikamnia."

Dr. Schick's indignant outburst against substitution is another indication that this baneful influence has not been reduced by the efforts of years of painstaking care on the part of manufacturing chemists. We are glad to see that such a law as the above is soon to be enacted in Tennessee, and we hope to see such an act passed in Georgia at early date.

* *

The Antikamnia Chemical Company have introduced a new combination, a tablet containing Antikamnia gr. v., Heroin gr. 1–12, which will prove useful and beneficial.

* *

Three Hundred Pounds of Cows' Excrement Consumed Daily.—Professor Conn, of Wesleyan University, in a discussion on the subject of dairy bacteriology, made the statement that the ordinary sediment from milk, when observed through the microscope, is found to consist of sticks, insects' legs and wings, hay, blood and pus; in fact, almost everything possible in the way of dirt, a large part of it being excrement. It has been estimated that New York City consumes daily 300 pounds of cows' excrement.

* *

Too Many Doctors.—The Journal of the American Medical Association is of the opinion that there is a surplus of doctors in the United States, and regrets that the surplus is increasing. There is now one doctor to every 600 population. As this is not on the whole an unhealthy country, one physician ought to be able to look after the aches and pains of a thousand ordinary people. Wherever more men are employed to perform any kind of service than are actually needed, either the community has to pay too much for services rendered or some of the men employed must be unable to make more than a bare living, if they make that. According to the Journal 1,600 doctors die yearly, in spite of their skill, but almost 6,000 are born. The medical colleges, although the requirements are severer than formerly, are turning 6,000 graduates a year. If this keeps on, how long will it be before there is one doctor for every 100 of the population? Then societies will have to be organized for the relief of starving M. D.'s. It is odd that so many young men should wish to study medicine when there are so many doctors, and when the physician has to face the competition of faith-healers and prayer-healers, who say they can cure any disease, and of "Christian Scientists," who assert that there is no such thing as disease. Probably the often-quoted statement that "there is always room at the

top" in an overcrowded profession is responsible for the existence of numbers of poor lawyers and doctors. Nearly every young man who is about to begin the study of medicine is convinced that he will reach the top and will get the big fees for surgical operations or medical treatment that he reads of. Perhaps he will, but the chances are about 2,000 to 1 against him. This is a point which medical colleges, naturally enough, do not impress on students. They do not endeavor to discourage the young men who are willing to pay their money for an education. But it would be a kindness to many of these, and to the community generally, if the authorities of medical colleges would tell many of the students that while "there is always room at the top," they never will get there—not half way there—but will remain near the bottom, where it is always overcrowded, and hence ought to drop out of medicine and turn to something else.

* *

Examinations for Army Medical Department.—An examination of applicants for appointment as Assistant Surgeon in the Army has been resumed in Washington and San Francisco; the Army Medical Boards convened in these cities will remain in session so long as there are candidates to be examined. Seventy-six vacancies in the Medical Department still remain to be filled, and as it is desired by the military authorities the department be filled up to its full legal limit as early as practicable, all eligible applicants will be afforded opportunity for examination; those found qualified will be commissioned at an early date. Full information as to eligibility, nature and scope of examination, etc., may be obtained upon application to the Surgeon General, U. S. Army, Washington, D. C.

* *

Nashville Meeting of Tri-State Medical Society.—An interesting feature of the next meeting of the Tri-State Medical Society at Nashville, Tenn., October 8, 9, 10, 1901, will be a series of papers on Socialogical Subjects. Some eight or ten papers will be presented, a list of which may be found elsewhere in this journal. These papers will be of interest to all professional men, as they will deal with the dangers and diseases that threaten our social life as a community, state and nation.

Every physician should not only have a medical knowledge of these subjects, but his duty urges the use of all legitimate, honorable means to disseminate such knowledge as will tend to lessen suffering and disease.

These discussions will tend to awaken thought and action which will result in benefit to humanity. Every physician is especially invited to attend the meeting, take part in the discussion of the papers and report of the Socialogical Committee. See preliminary programme page.

The N. S. Davis Banquet.—Under the auspices of the Chicago Medical Society a banquet and celebration has been organized in honor of Dr. Nathan Smith Davis, M.D., L.L.D., who is the oldest living President of the Society and widely known and honored among the profession by his long connection with the American Medical and other associations. The banquet will take place at the Auditorium Hotel, Chicago, Saturday evening, October 5th, 1901.

May we ask you therefor to notice this event in your journal.

Very sincerely yours,

Christian Fenger, F. X. Walls,
Jas. H. Stowell, E. F. Wells,
W. S. Haines, Arthur R. Edwards,
Committee.

NEW BOOKS.

FROM F. A. DAVIS COMAANY.

A Treatise on the Acute, Infectious Exanthemata, including Variola, Rubeola, Scarlatina, Rubella, Varicella and Vaccinia, with especial reference to Diagnosis and Treatment. By William Thomas Corlett, M.D., L.R.C.P. Lond., Professor of Dermatology and Syphilology in Western Reserve University; Physician for Diseases of the Skin to Lakeside Hospital; Consulting Dermatologist to Charity Hospital, St. Alexis Hospital, and the City Hospital, Cleveland; Member of the American Dermatological Association and the Dermatological Society of Great Britain and Ireland. Illustrated by 12 colored plates, 28 half-tone plates from life, and 2 engravings. Pages viii–392. Size $6\frac{1}{4}$ by $9\frac{1}{4}$ inches. Sold only by subscription. Price, extra cloth, $4.00 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914–16 Cherry St.

The author's recollection of difficulties encountered in the early years of his professional career in dealing with the acute exanthemata are his plea for presenting this volume. The obstacles preventing the broad clinical study and bedside demonstration in such dangerous and highly communicable diseases as variola, scarlatina and rubeola render it hazardous and in many instances impracticable to impart sufficient instruction to students of medicine these facts prominent before the author's mind, suggested to him that the time was opportune for a work dealing exclusively with this most important group of diseases.

The book is very practical and presents the subjects under consideration in the light of modern research. The text is greatly enhanced by illustrations and colored plates which portray the types of diseases discussed in all their originality. The most delicate shades of color are given, clearly illustrating the disease in its various stages, in color, as well as the conditions most liable to mark their appearance.

The author goes deep into the early history of variola, even back to the old testament days, and intimates that the Egyptian plague was small pox. History records that the disease was known in China 1122 B. C. Scarlet fever and measles are subjects the author handles in a masterly manner.

Much praise is due Dr. Corlett for presenting to the medical profession such an excellent text-book on the "Acute Infectious Exanthemata." It is the best work ever published upon the subject which it covers. There are many points in symptoms, management and treatment which deserve mention; indeed the entire book teems with valuable information. It is beautifully printed, handsomely bound, and one of the most attractive books we have read.

Libertinism and Marriage—By Dr. Louis Jullien (Paris), Surgeon of Saint-Lazare Prison; Laureate of the Institute, of the Academy of Medicine, and of the Faculty of Medicine of Paris. Translated by R. B. Douglas. Size of page 5½ by 7½ inches. Pages v–169. Extra cloth, $1.00 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914–16 Cherry St.

This little volume contains just the advice medical men are often asked for—*Blennorrhœa just before or after marriage.* Every physician has had young men to present themselves with an acute blennorrhœa, saying they are to be married in two or four weeks and you must cure them in ten days. In such cases the author strongly urges a postponement of marriage both on account of the patient's health and that of his future wife. A man who has had an acute blennorrhœa should be warned that after the completion of the necessary treatment he should be looked after for several months. It is a crime against womanhood and future posterity for any man to be allowed to marry who has germs capable of producing urethritis lying dormant in his urethra. The large percentage of the various ills with which women suffer are due to the contagion introduced into their vaginas by husbands or libertines, and Dr. Jullien presents timely advice on this subject, and says that in the greatest majority of cases woman is the victim. It is a very interesting little book and should be in the hands of every practitioner.

An International System of Electro-Therapeutics—For Students, General Practioners and Specialists. By Numerous Associated Authors. Edited by Horatio R. Bigelow, M.D., Permanent Member of the American Medical Association; Fellow of the British Gynæcological Society and of the American Electro-Therapeutic Association; Member of the Philadelphia Obstetrical Society, of the Société Française d'Electro-Thérapie, and of the Anthropological and Biological Societies of Washington, D. C.; Author of "Gynæcological Electro-Therapeutics," and "Familiar Talks on Electricity and Batteries" Second edition. Revised and brought up to date, with several New Departments embodying the Most

Recent Developments of the Science. Edited by G. Betton Massey, M.D., Ex-President and Fellow of the American Electro-Therapeutic Association; Member of the American Medical Association; Author of "Conservative Gynecology and Electro-Therapeutics," etc. Thoroughly illustrated. Royal octavo. Pages x–1147. Prices net, delivered, extra cloth, $6.00; sheep, $7.00; half-russia, $7.50. Philadelphia: F. A. Davis Company, Publishers, 1914–16 Cherry St.

This, the second edition of what has been the best book of reference in electro-therapy, is far superior to the previous edition, which has been out of print for several years. Every department of the subject is treated of fully and scientifically, by eminent specialists, and all is thoroughly revised and brought up to date, with several entirely new departments, embodying the most recent developments of the science. If the saying is true that "two heads are wiser than one," it is surely true of this book, and the experience, observations and opinions of forty able men, compiled into one volume, makes a whole library of valuable information, which should be in the hands and minds of every doctor using electricity in his practice, no matter how little, because if you use it all, use it rightly, or let it alone, for if the agent is used wrongly it will do harm, just as surely as it will do good if rightly used, in proportion to its power. A course of instruction in electro-therapeutics is needed by every physician, and there are such prepared especially for the beginner, but if the subject can be learned at all from books it can be learned from this one, and it should always follow a preparatory course, as a consultation and reference library. We honestly recommend this book and advise its purchase and careful study by every doctor using a battery, and who wishes the best all-round reference book in electro-therapeutics.

Transactions of the American Electro-Therapeutic Association—Complete account of Ninth Annual Meeting held at Washington, D. C., September 19, 20 and 21, 1899; also Tenth Annual Meeting held at New York City, September 25, 26 and 27, 1900. Illustrated. Pages xv–391. Size $9\frac{1}{4}$ by $6\frac{1}{4}$ inches. Price, extra cloth, $2.00 net, delivered. Philadelphia: F. A. Davis Company, Publishers, 1914–16 Cherry St.

Besides the transactions of the Washington meeting in 1899 and the New York meeting in 1900 this volume contains 37 valuable contributions to the literature of electro-therapeutics by the foremost electro-therapeutists of this country.

If these papers, with the discussion following, constitute the food of this Association, one would judge that its members would be well fed and well nourished, indicative of a strong, active, healthy body. Membership is an honor to him who is so fortunate as to be recommended by the Committee on Credentials.

Taken as a whole the volume is a very creditable one, an honor to the Association, and the Publication Committee are to be congratulated on the appearance of the second volume. We add it to our library with thanks.

FROM W. B. SAUNDERS & CO.

A Text-Book of the Practice of Medicine—By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Fifth edition, thoroughly revised. One handsome octavo volume of 1297 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $5.50 net.

The success of this work as a text-book and as a practical guide for physicians has been truly phenomenal. Five large editions have been called for in less than four years. The rapid exhaustion of each edition has made it possible to keep the book absolutely abreast of the times, so that Dr. Anders' book has become justly celebrated as a thoroughly up-to-date work on the practice of medicine.

In this edition the most thorough and extensive changes have been made in connection with the large group of infectious diseases. No pains have been spared to present modern views, derived from clinical experience and critical bedside observation, as well as newly-discovered scientific facts. Especial care has been bestowed upon the etiology, including bacteriology, inductive diagnosis, and the details of treatment, in the belief that these phases of the subject treated form the groundwork for an intelligent and successful pursuit of the science and art of medicine.

The etiology and mode of transmission of malaria and of yellow fever have been almost entirely rewritten. Certain affections of growing importance, as diphtheretic, dysentery and parasitic hemoptysis, have been recast and more fully discussed. A few new articles have been introduced; for example, fatty infiltration of the heart, streptococcus pneunomia, and acute diffuse interstitial nephritis. Among leading infections that have received careful and thorough revision are typhoid fever, malaria, cerebro-spinal meningitis, lobar pneumonia, influenza, variola, chronic tuberculosis, and hydrophobia. The entire work, moreover, has been carefully scrutinized and brought into harmony with the most recent developments in practical medicine.

Nothing seems to have escaped the author's vigilant eye, even the latest wrinkles in organo-therapy are to be found in these pages. The charts, illustrations and diagrams are more than ordinarily good, while the tables for differential diagnosis are more numerous than in any other book on practice published in this country. Whenever dosage is given it is mentioned; its *metric equivalent* is placed in parenthesis, the number of grains being stated in round numbers.

The orthography and terminology is that adopted by standard lexicographers.

In closing this all too brief review we predict, as we did when reviewing the first edition, that as a text-book on practice there is none better written in the English language, and that it is destined to be the leading text-book in the medical schools of the South.

This is a book for the desk and not for the shelf. We have never examined a book with which we were more pleased, and to commend this volume is both a pleasure and a duty. To Dr. Anders the profession are under many obligations, and to the publishers, who appreciate a good work, we commend their business tact and rare sagacity for placing this work before the profession in a style worthy of its contents.

Nervous and Mental Diseases—By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M.D., Chief of Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, College of Physicians and Surgeons, New York. Third edition, revised and enlarged. Handsome octavo volume of 870 pages, with 322 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $5.00 net.

This work has met with a most favorable reception from the profession at large, two editions having been exhausted in as many years. It fills a distinct want in medical literature, and is unique in that it furnishes in one volume practical treatises on the two great subjects of neurology and psychiatry.

As one might be led to believe, this is not the joint work of two writers, but each author—Dr. Church on neurology, and Dr. Peterson on psychiatry—have contributed to the making of a single volume what might have been made a separate work; each is, therefore, solely responsible for the work in his own department. The reader's convenience has been considered in placing the correlated sciences, neurology and psychiatry, in one volume.

In this edition the book has been thoroughly revised in every part, both by additions to the subject matter and by rearrangement wherever necessary, to make it more acceptable to the practitioner and the student. Several sections have been entirely rewritten, and there have been added a number of new illustrations, an increased amount of tabular matter, and a series of diagrams that have proved of assistance in the solution of diagnostic problems.

The authors make no claim other than this work was painstakingly prepared for medical students and general practicioners. Each author has sifted down with care the literature of neurology and psychiatry, and such digest revised according to their own practice and teaching. They present facts clearly, directly and with much brevity, more so than usually found in text-books on this subject, overcoming the difficulty of condensing two great subjects within the limits of a single volume. Of the many text-books published on

nervous and mental diseases we do not know of one that so nearly comes up to our ideal as does this volume. It will make its way by sheer force of merit and amply deserves to do so. Mr. Saunders gets it out in keeping with his other publications—good paper, clear type and wonderfully good illustrations.

The American Illustrated Medical Dictionary—For Practitioners and Students. A Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A.M., M.D., editor of the "American Pocket Medical Dictionary." Second edition, revised. Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia and London: W. B. Saunders & Co., 1901. Price, $4.50 net.

A large first edition of the work was issued in October, 1900. From the day of its publication the book met with a remarkably large sale, and the edition was exhausted in eight months.

This is a new and complete dictionary of terms used in medicine, surgery, dentistry, pharmacy, chemistry and the kindred branches, including much collateral information of an encyclopedic nature, together with new and elaborate tables of arteries, muscles, nerves, veins, etc.; of bacilli, bacteria, diplococci, micrococci, streptococci, ptomains and leucomains, weights and measures, eponymic tables of diseases, operations, signs and symptoms, stains, tests, etc. The aim has been evidently to issue an authoritative text-book, one ample in its vocabulary, concise in its definitions, compact in arrangement and of convenient size for daily use.

In this edition the book has been carefully revised. The author has also added upward of one hundred important new terms that have appeared in medical literature during the past few months. Among them appear "anopheles," "cryoscopy," "johimbin," "hemolysin," "hedonal," "sacretomy," etc., words that have recently come prominently before the profession, and which of course are not to be found in any other dictionary.

Other valuable features of the book are to be found in the complete and satisfactory definitions, the etymological references in the original languages, and the clear method of indicating the pronunciation. There are over one hundred new tables, and the illustrations add greatly to the usefulness of the book. These have been chosen with great care and add infinitely to the value of the work. The book will appeal to both practitioners and students, since, besides a complete vocabulary, it gives to the more important subjects extended consideration of an encyclopedic character.

The author is to be congratulated upon his success, and so far as a careful examination enables us to judge, it faithfully represents the medical literature of the day. As a handy, concise, accurate and complete dictionary it decidedly claims a very high place among works of this class, and from a critic's standpoint we can only praise the work. The publishers get it out in handsome red limp leather binding, strong enough to withstand the wear and tear of daily use.

The Pathology and Treatment of Sexual Impotence—By Victor G. Vecki, M.D. Third edition, revised and enlarged. 12mo., 329 pages. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $2.00 net.

The reading part of the medical profession of America and England has passed judgment on this monograph. The whole subject of sexual impotence and its treatment is discussed by the author in an exhaustive and thoroughly scientific manner. The former edition was exhausted in less than two years. In this edition the book has been thoroughly revised and new matter has been added, especially to the portion dealing with treatment.

Although no one denies that the sexual function is of the very greatest consequence to the individual as well as to society in general, yet the subject of impotence has but seldom been treated in this country in the truly scientific spirit that its pre-eminent importance deserves, and this volume will come to many as a revelation of the possibilities of therapeutics in this important field. The author ventures to assert that in many cases it is a better deed to restore to an impotent man the power so precious to every individual than to preserve a dangerously sick person from death, for in many cases death is preferable to impotence.

It is a well-written, scientific work, and can be recommended as a scholarly treatise on its subject.

Perhaps our admiration for the work may spoil our quality as critics and reviewers, but it cannot prevent us from telling our friends that they will search far, indeed, and in many languages, to find its equal. For the young practitioner it is a book nearly of necessity, and to them, as to all others, we advise its perusal.

FROM D. APPLETON & CO.

The Diagnostics of Internal Medicine—A Clinical Treatise on the Recognized Principles of Medical Diagnosis, Prepared for the use of Students and Practitioners of Medicine. By Glentworth Reeve Butler, A.M., M.D., Chief of the Second Medical Divisien, Methodist Episcopal Hospital. With 5 colored plates and 246 illustrations and charts in the text. Cloth. Pp. 1059. Price, $6.00. New York: D. Appleton & Co., 1901.

Works on diagnosis are comparatively numerous at the present time, but each new one has its special features of interest and value. The present volume covers the greater portion of the field of internal

medicine in a very satisfactory way and undoubtedly will be found by many more acceptable than other works. It is particularly strong in its illustrations; these are generally very well selected to illustrate the text, which itself is clear and readable.

Of the numerous books bearing upon this subject, according to our way of thinking, this is the best of them all; that is, it more nearly meets the want of the practitioners than any of them. It is divided into two parts. Part I is taken up with *a study of symptoms and their indications;* Part II with *a study of diseases and their characteristics.* We could not give a better description of this "Clinical Treatise" than by quoting from the preface: "Part I—*The Evidences of Disease*—comprises: 1. A brief consideration of the clinical anatomy and physiology of certain organs and systems—practical points of everyday utility. 2. A description of the approved methods of examination. It has been well said by a capable reviewer that 'the basis of the art of diagnosis is a thorough knowledge of clinical methods.' 3. A careful consideration of the many signs and symptoms encountered in the practice of internal medicine. 4. A statement of the diagnostic significance of each sign and symptom—i. e., the disease or diseases, the presence of which is more or less strongly suggested by the finding of a given sign or symptom. While a prominent symptom seldom leads directly to the discovery of a disease, yet it is of importance to know the diagnostic value of individual symptoms. Part II—*Diagnosis, Direct and Differential*—contains: 1. Succinct descriptions of recognized diseases and their symptoms, with, 2, special reference to the diagnosis, direct and differential, of each disease. The qualifying terms applied to diagnosis are scientifically indefensible, but clinically useful." The two Parts are; indeed, complementary.

Taking the work as a whole it may be said to meet most of the requirements of a work on the diagnosis of non-surgical diseases and to possess special merits in some particulars, more especially in its first section. It is well worth a place in the physician's library.

FROM WILLIAM WOOD & CO.

The Estivo-Autumnal (Remittent) Malarial Fevers—By Charles F. Craig, M.D., Yale, A. A. Surg. U. S. A.; Pathologist and Bacteriologist to U. S. A. General Hospital of San Francisco; Late Director of the Bacteriological Laboratoriea of the Sternberg U. S. A. General Hospital, Chickamauga Park, Ga., etc. Illustrated by 2 colored plates and 21 clinical charts. 8vo. 213 pages. Cloth bindings. William Wood & Co., 51 Fifth Ave., N. Y. 1901.

The aim of the author in presenting this book is to describe minutely a class of fevers yet too little understood by a great mass of the medical profession. The work is very largely the result of Dr. Craig's personal experience in dealing with this class of fevers in the military hospitals of the U. S. A. during the past three years, and is based on a careful study of hundreds of cases of estivo-au-

tumal fevers. A great majority of the cases have been malaria contracted in Cuba and the Philippines.

The author, soon after beginning his laboratory investigations of diseases prevalent among the troops of the U. S. A., became convinced of the importance for a thorough knowledge of malarial fevers, and more especially the estivo-autumnal malarial fevers, to the practicing physician. At Chickamauga Park, Ga., where Dr. Craig first began this study, hundreds of cases of typhoid were diagnosed and treated as remittent malarial. It was thought that because the camp was located in the South the cases must necessarily be of malarial infection. This colossal mistake was due largely to ignorance of the nature and methods of diagnosing the remittent malarial fevers. The author felt it his duty to record his experience and place it before the profession, trusting that a study of the subject will be of assistance to the profession at large.

The book is divided into eighteen chapters, describing in detail definitions of and historical remarks on the estivo-autumnal remittent malarial fevers—the parasites of the quotidian and tertian types as well as the ovoid and flagellated form of the estivo-autumnal parasites, their life cycle within the mosquito, cultivation and inoculation experiments, blood examinations, methods of staining. In chapter viii is considered etiology, predisposing causes, general and local, direct infection by air, water and by inoculation. Chapter ix treats of transmission by inoculation from man to man, incubation and immunity. Following this is chapters on general and special pathology of estivo-autumnal fevers. In chapter xii will be found a clinical description of the disease, classification and symptomatology of tertian and quotidian forms, with clinical illustrations. Following this are chapters on pernicious and marked forms of estivo-autumnal fevers, complications, sequellæ, diagnosis and prognosis, prophylaxsis and treatment.

The charts are those of typical cases of estivo-autumnal fevers, selected to demonstrate the variations in temperature cure, often so puzzling that only the microscope can reveal the diagnosis. With the lessons concisely elucidated in this book there can be no excuse to-day for a diagnosis of either malaria or typhoid fever, for with the Widal test and the microscope you are armed with all that is necessary for their recognition.

The author has presented in a simple and accurate style the facts connected with the estivo-autumnal type of malarial fevers, and we would urge the profession and our readers to buy this book and study its contents with care.

Messrs. William Wood & Co. turn it from their press rooms with all the art of modern bookmakers, for which they are justly famous.

PROGRESS
—OF—
MEDICAL SCIENCE.

THERAPEUTICS

UNDER THE MANAGEMENT OF
MARION X. CORBIN, M. D.,
SAVANNAH, GA

THE VALUE OF ERGO-APIOL IN MENSTRUAL DISORDERS

BY GEO. M. NORTON, M. D.,
Savannah, Ga.

It is a pleasure in these days of commercialism to find a thoroughly ethical preparation placed with, and advertised only, to the medical profession. Such a preparation is Ergo-apiol (Smith), composed of apiol, ergotin, oil savin, and aloin, a new combination of old remedies, making an efficacious preparation in menstrual disorders.

It might be interesting to know something of the source and therapeutic effects of apiol. It has obtained from the volatile oil of parsley, is a yellow straw-colored liquid, of a slightly acid reaction, soluble in ether, alcohol, and chloroform. Its physiological action is mainly upon the vascular system, causing congestion, and at the same time exerts a special action on the muscular tissues of the uterus; it is, therefore, a regulator of uterine function, having an emenagogic action on the menstrual flow. It is indicated in amenorrhea, dysmenorrhea, scanty and retarded menstruation.

My experience with this preparation has been so pleasing that I think I should report the results of my investigation.

As the stoppage, scantiness, or non-appearance of the menstrual flux arises from very different causes, and as these causes are of diverse or even opposite natures, and may often be removed by drugs, it is obvious that very many remedies of very different character are indirect emenagogues. Thus, amenorrhea may depend upon plethora, or it may be the result of anæmia; and while in the one case depletory medicines are indicated, in the other case tonics are no less essential. As a direct emenagogue, Ergo-apiol is the drug par excellence. In such cases where uterine stimulation is required Ergo-apiol should be given.

Another thing of vital importance in favor of Ergo-apiol (Smith) is its non-toxicity and entire absence of narcotic action.

In the administration of ergot one has to be continually on the lookout for ergotism, or other results following the use of numerous

other emenagogues, whose action has proved fatal in so many instances. In administering Ergo-apiol (Smith) you can do so without any apprehension of the results outlined above.

During the past year it has become my routine practice to administer Ergo-apiol after confinements. Its action is far superior to that of the best fluid extract of ergot on the market. As an oxytosic it is a superior preparation. In cases of troublesome dysmenorrhea its action has been entirely satisfactory.

After using the preparation for more than a year, I would say that it is a remedy upon which I attach a great deal of importance, and rely on for great results in menstrual disorders.

In concluding would say, that the physicians who are unacquainted with its merits should lay aside skepticism and give this remedy a thorough trial.

I.—Alice B., aged 16, began menstruating at 14; had an attack of malarial fever and did not menstruate for two years. I administered Ergo-apiol (Smith) and after the usual month's treatment she came all right and has been regular ever since.

II.—Mrs. F., has suffered severe pains before and during her menstrual periods and the flow was very scanty. I administered Ergo-apiol and she has had no further trouble. It is now four months.

III.—Miss C., age 22 years; has had irregular menstrual periods; menstruating once and sometimes twice a month. This condition has kept up for two years. At first I used tonics containing some preparation of iron with strychnine and did not get results. I put her on Ergo-apiol and am glad to report very happy results.

IV.—Mrs. S., age 22; has had painful menstrual periods for six years, keeping her in bed usually two days at each period. Has sought relief from various sources. At last fell into my hands. Prescribed the whole list of utero-ovarian sedatives without any relief. Was about to give up in despair when my attention was called to Ergo-apiol (Smith). Ordered the capsules to be taken one day preceding the menstrual flow and for the first day of flow, with the satisfaction of seeing my patient go through her period without pain, and won her everlasting gratitude.

The Action of Opium on the Stomach.—In La Semaine Medicale of February 20, 1901, Lepine, professor of clinical medicine of the Faculty of Medicine at Lyons, contributes a short article upon this subject. He begins by pointing out that for many years it has been the custom to administer one of the opium preparations in the treatment of the pain of gastralgia, but that more recently it has been thought that the administration of this drug augments the acidity of the gastric juice. He then goes on to quote a considerable number of authors who, he believes, support this view, and states that when the gastric pain is due to a hypersecretion of hydrochloric acid, opium is not the remedy of choice, but that atropine, or one of the drugs closely associated with it, is the drug which should be em-

ployed for the relief of the pain. It will be remembered that morphine is largely eliminated from the gastric mucous membrane, and it is perhaps possible that the increased activity of this membrane in the process of elimination is associated with a distinct increase in the secretion of gastric juice.—*Therapeutic Gazette.*

Methylene Blue Injections in Pleurisy with Effusion.—C. H. Lewis, in the Medical News of June 1, 1901, recommends the removal of a portion of the fluid by aspiration, and then injecting into the pleural cavity some substance which will stimulate inflammatory reaction and thus lead to an obliteration of the pleural sac. He has experimented with numerous substances, and finally decided that methylene blue, because of its antiseptic, anodyne and diuretic properties, was the most valuable for injection. That success shall follow the injections depends upon several conditions. First, whatever drug is employed, it should be in permanent solution; its reaction and specific gravity should correspond very closely to that of the fluid in the chest cavity. The material injected must be antiseptic or easily rendered aseptic, and the volume of fluid in the sac must remain unchanged. These conditions are accurately met by using a part of the contents of the pleural cavity for making the solution. Consequently, he withdraws a portion of the effusion and dissolves in it methylene blue, about one part in fifty. The operation is performed with a median-sized aspirating needle fitted with asbestos piston and washers. The quantity of methylene blue employed in these injections, which have been used altogether in twenty-three cases of serofibrinous pleurisy, has amounted to from five to fifteen grains. The amount of fluid removed varied from 60 to 100 cubic centimeters. The drug appeared in the urine in from 9 to 3 days, the rapidity depending upon the quickness of absorption by the diseased membrane.—*Medicine.*

Suprarenal Gland in Peritonsillar Abscess.—L. S. Somers, in Merck's Archives for May, 1901, says that the results obtained from the local use of suprarenal gland in tonsillitis are dependent upon the method of application and the time that the drug can be kept in contact with the inflamed tissue. Its efficacy will also depend upon the extent to which the vascular changes have advanced; if a case is seen early, the tonsillar inflammation may be aborted, even in cases in which the inflammation is severe. While the application may not cure the disease, it will convert it into a much milder condition. It is claimed by many writers that even in peritonsillar abscess the application of the suprarenal gland relieves the redness, swelling and pain. A spray in the throat of an aqueous solution of the gland has many objections, the principal one being that the parts are covered with a tenacious mucus which prevents the thorough contact of the drug with the mucous membrane. The writer has been able to obviate this by prescribing five-grain capsules, which the patient is directed to empty upon his tongue and to masticate

the drug slowly, retaining it as long as possible in the mouth and pharynx. At the end of five or ten minutes the mouth is cleansed with hot or cold water. The patient is directed to expectorate the drug, as it is only the local action that is desired.—*Medicine.*

Poisoning by Anilin.—Frequent reference is found in recent literature to cases of anilin poisoning. St. Clair Thompson reported to the Clinical Society of London (The Lancet, April 20, 1901) a case of poisoning from the use of anilin oil. A 10-per-cent. solution of cocaine in equal parts of anilin oil and rectified spirits was given for a furunculosis. A small pledget of cotton well moistened with this solution was used at bedtime. The following morning the application was repeated. Two and a half hours later a blueness of the finger-nails and the face was noted, the cyanosis including the lips and tongue. There was no fever or mental disturbance, the respiration was normal, and the pulse was small and somewhat increased in frequency. An examination of the heart showed some enlargement, the border of the left ventricle being two fingerbreadths out of the nipple line. The blue color disappeared during the course of the day, and the area of cardiac dullness became normal.

Acetanilid Poisoning from External Absorption.—J. L. Mennasses, in the International Medical Magazine for May, 1901, reports two cases of acetanilid poisoning from apsorption from external wounds in children. The first patient was a baby six weeks old who had a troublesome eczema of the buttocks. A powder was apaplied composed of equal parts of acetanilid and subgallate of bismuth. Twenty-four hours later the skin of the child was markedly cyanotic, the temperature was subnormal, the respirations were feeble and shallow, the pupils were dilated, the heart rapid and weak, and extremities cold. Hot applications were ordered, with the internal administration of whiskey, and at the end of three days all symptoms of poisoning had disappeared.

A second case was that of a child of two and one-half years who had received a severe scald of the buttocks. A powder composed of equal parts of subnitrate of bismuth and acetanilid was applied, which soon relieved the pain. On the second day the lips, ears and finger-tips were blue. The symptoms of prostration were present as in the first case, but not to the same degree. The blueness gradually disappeared, and at the end of a week the wound was healed.

Apocodeine as a Laxative.—Several years ago Dr. Toy, of Lyon, reported his favorable results with apocodeine, both as a sedative and as a laxative; he had given it per os, or hypodermically in doses of $\frac{1}{3}$ to 1 grn. Quite recently Professor Combemale of the University of Lille, has instituted extensive trials with the drug, with special reference to its value as a laxative. It was administered hypodermically to a large number of patients suffering with constipation; 30 min. of a 1-per-cent. solution of apocodeine hydrochlorate, corresponding to $\frac{1}{3}$ grn. of the drug, was injected. In al-

most every case the injection caused one or more soft stools. The author therefore considers apocodeine a good laxative, which deserves special interest from the fact that the number of substances which will produce a cathartic effect when injected hypodermically is extremely limited. In none of the cases did the apocodeine produce any general by-effects. The only effect produced was some pain and redness at the point of injection, but this, the author says, is easily avoided by injecting directly into the muscles instead of under the skin.—*Merck's Archives.*

A New Method of Differentiating Between Human and Animal Blood.—Heretofore the only means of distinguishing between human and animal blood was in the identification of the nucleus or the oval outline in certain species. The average diameter of the corpuscles has been relied upon to distinguish the blood of species which have a round non-nucleated corpuscle. At one time the latter was supposed to be a positive means of differentiation, but of late years the most that conservative medical jurists would say was that a given specimen of blood was consistent with human blood, but they would not say that they could distinguish it from the blood of a dog, or possibly from some of the other domestic animals. It certainly will excite deep interest to know that A. Wassermann and A. Schutze have published in the Berliner Klinische Wochenschrift for Feburury, 1901, a statement that they are able to distinguish the blood of the human from that of all animals.

The test is made by injecting a rabbit with human blood serum, using ten cubic centimeters. At the end of five or six injections it is found that a physiological sodium chloride solution of human blood will produce a cloudiness in the blood serum of a rabbit so treated. It is only human blood that will give the reaction. The blood of all common animals has been tested, and in no instance was a reaction obtained; the only blood in which the test was doubtful was that of a monkey.

It is claimed that the test is equally valuable in old and dried blood-stains. It has been made upon stains more than three months old in which all the secondary changes which take place in the hemoglobin were present.

Treatment of Dysentery.—Dr. Potilov (Les Nouveaux Remedes, xvii, No. 2) recommends ichthyol enemata in the treatment of dysentery. He uses for each injection 6 drams of ichthyol dissolved in about 27 ounces of water. The patient takes at the start a dose of castor oil and the ichthyol injections are then given every other day. An endeavor must me made to make the liquid reach as high up in the intestine as possible. The pains disappear very rapidly under this treatment, and all other symptoms improve.—*Merck's Archives.*

INTERNAL MEDICINE AND NEUROLOGY.

UNDER THE CHARGE OF

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CASES OF MALIGNANT ENDOCARDITIS FOLLOWING MEASLES, TYPHOID FEVER AND MISCARRIAGE.—Roussel (Med. Rec., April 20, 1901) gives details of three cases of malignant endocarditis, the first of which followed shortly after an attack of measles, the second occurring during convalescence of typhoid, the third apparently the result of infection from a miscarriage. The writer assumes that the poison of measles was the agent in his first instance; healing typhoid ulcers were present in the intestine of the second; vegetations and ulcerations were present on the mitral valves in both. Enormous enlargement of the spleen with infractions was found in the typhoidal case, while there was moderate splenic enlargement in the other. No cultures were taken. The third case, which recovered after about twelve weeks of septic fever, showed a distinct and persistent murmur over base and apex of the heart, and there were streptococci in the blood. The signs as regards the heart in these cases were various. Number one had only a very soft systolic apical murmur; number two showed a loud systolic murmur at the apex, a soft diastolic murmur at the base. In all tumultuous heart action was apparent. The enlargement of the spleen and marked enlargement of lymphatic glands gave the second case a decided resemblance to lymphatic leukemia with splenic enlargement; the blood, however, not bearing out the resemblance; all the cases were associated with marked anemia and leukocytosis, and ran more or less typical courses in 4, 6 and 12 weeks. Knowing the frequency with which other infections may follow measles, we hesitate to accept the idea of endocarditis due to the poison of measles. A definite typhoid basis probably existed in the second case, which was no doubt a typhoid septicemia. The presence of the streptococcus in the blood explains the third.—*Int. Med. Mag.*

ETIOLOGY OF ASPIRATION PNEUMONIA.—Ucke (St. Petersburg Med Woch., March 19, 1901) says that leptothrices, streptococci, bac. of malignant edema, and various other micro-organisms have been described in aspiration pneumonia and its sequelæ, abscess and gangrene; but no common or frequent exciter of the condition seems yet to have been found. The difficulty in obtaining cultures in pure condition from the sputum is always an obstacle. In two cases the

author has found similar organisms in the sputum, and in both was able to demonstrate their pulmonary origin; in one by aspiration and subsequent thoracotomy for abscess, in the other by post-mortem examination, at which gangrene of the lung, following perforation of a carcinomatous esophagus, was found. The organisms were both apparently, from their structure, streptothrices, resembling the mycelial branching growth of antinomyces. None of the further characteristics of actinomycosis infection, such an granules or clubs, could be seen. Cultural and animal inoculations were negative. The organisms stained well by Thionin, carbol fuchsin and Gram. In the tissues of the second case bunches of mycelial growths about necrotic centers, and surrounded by evidences of inflammatory reaction, could be shown. The author quotes the well-known occurrences of similar structures in the tonsillar plugs and in decayed teeth; he supposes that in many instances aspirated food particles may carry infection from these sources. In the pus of a sub-diaphragmatic abscess originating from a perforating duodenal ulcer and breaking through into the lungs, organisms, morphologically similar to those described, were seen, showing the possibility of streptothrical infection even from this source. The observations on streptothrix infection of the lungs, many of which have to do with pulmonary abscess, ulcerative processes and bronchopneumonia, are apparently unknown to the author; his observations, though interesting, are not new.

Condition of the Kidneys with Reference to the Employment of Diuretics.—A. R. Elliott (Med. News, Vol. 79, No. 6) concludes a valuable and timely article thusly:

1. Except in the case of the irritant-epithelial diuretics (turpentine, cantharides, etc.) the entire class of diuretics may be said to exert their effect upon the urine by acting indirectly through the circulation.

2. Owing to the necessity for sparing the kidneys all irritation, drugs given for diuretic purposes should act indirectly rather than directly, consequently the secretory diuretics are contraindicated in irritative and inflammatory renal conditions.

3. In functional urinary disorders diuretics are mainly useful to overcome concentration and hyperacidity of the urine. To accomplish this, simple diluents and salines are best adapted.

4. In acute nephritis saline diuretics are permissible throughout the entire course of the disease and exert a beneficial influence by increasing elimination and clearing the tubules of inflammatory debris. Subcutaneous saline infusion constitutes our most powerful eliminant in desperate cases.

5. In chronic nephritis the cardio-vascular diuretics are most useful, owing to the fact that oliguria and dropsy are usually the result of circulatory failure. The dropsy, under such circumstances, being of cardiac origin, may be benefited by cardio-vascular stimulants provided the kidneys are not too badly damaged.

6. Dropsy of purely renal origin is not amenable to favorable influence by diuretics.

7. Although the morbid process in the kidneys may furnish us with our primary inspiration to diuretic medication, it is the condition of the heart and circulatory apparatus in most cases that determines the choice of an agent.

Primary Sarcoma of the Thyroid Gland.—A. J. Lartigan (Amer. Jour. Med. Sci., Vol. 122, No. 2) reports a study of this subject, with the following conclusions:

1. Primary sarcoma of the thyroid gland is rare, but probably of more common occurrence than statistics show. It is less frequent than carcinoma of the thyroid gland.

2. It is commonly associated with goitre. Those cases developing in persons between forty and sixty years of age show a higher percentage of previous goitre than younger individuals. Goitre, associated with sarcoma of the thyroid, is more common in women than in men.

3. Sarcoma of the thyroid occurs oftener in late than in early life. The greatest age frequency is between 40 and 60.

4. Sex is probably an unimportant element in its development.

5. The primary tumor most frequently originates in the right lobe of the thyroid body. This distribution seems to be more frequent in men than in women.

6. The clinical course of the disease is usually relatively acute.

7. Involvement by pressure or new growth of the trachea or lyrynx is common.

8. Metastasis occurs through blood or lymph channels, or both.

9. Round and spindle or mixed-celled sarcomata are most common. Angio-sarcomata are not rare.

Importance of Blood Analysis in General Diagnosis.—v. Podstata (Illinois Med. Jour., Vol. 3, No. 2) says:

1. Simple counts of white cells before and after meals give us excellent information as to the digestive power of the patient.

2. Concealed hemorrhages can be recognized and their extent determined by the count of red cells and by the hemoglobin estimate.

3. Blood analysis alone enables us to make positive differential diagnosis of blood diseases, giving also excellent hints as to treatment and prognosis.

4. In pneumonia, especially central, often practically without physical signs, it helps us greatly in diagnosis and it is an absolutely certain guide to the diagnosis of complications.

5. Typhoid fever can be, in the great majority of cases, positively diagnosed by Widal's clump-reaction test. The existence of complications is revealed by the count of white cells.

6. Scarlet fever may be early and easily diagnosed from measles and small-pox (in early stages) by the count of white cells.

7. Positive iodine test and leucocytosis is a certain evidence of the presence of septicemia.

8. Presence of leucocytosis is a safe guide for the detection of suppurative diseases and differentiation from such as typhoid fever, malaria, rheumatism, etc.

9. Repeated count of white cells gives excellent hints as to the advisability of an operation in pus tubes.

10. Osteomyelitis, so difficult and yet so important to diagnose early from rheumatism, can usually be safely told by the count of white cells.

11. Pure tubercular diseases can easily be told in the majority of cases from other affections and the presence of secondary infection can be determined by simple counts of white cells.

12. Mercurial test, combined with blood and hemoglobin estimate, determines soon whether secondary syphilis exists or not.

13. The severity of syphilitic infection can be told by the estimate of lymphocytes and hemaglobin.

14. Carcinoma and sarcoma, except possibly that of the esophagus, can be, as a rule, easily told from benign tumors.

15. Very quickly made examination of fresh blood suffices to absolutely settle the diagnosis of malaria by means of microscope.

The Prognosis of Traumatic Hysteria Based Upon the Subsequent Histories of a Number of Litigated Cases.—Pearce Bailey, of New York, gives in brief the histories of nine cases of traumatic hysteria, whose subsequent career he had an opportunity of following, and was thus enabled to arrive at certain conclusions, which possessed more than a theoretical value. The most important material manifestations which hysteria causes are paralysis, and defects in the special sense apparatus of sight, taste, smell, hearing, and common sensibility, so that the patient may seem, and believe himself to be, paralized, or blind, or deaf, or deprived of the use of the other special senses. From the cases which are cited, it is evident that the same uncertainty regarding prognosis which characterizes all mental affections is to be found in traumatic hysteria. Among the indications which enable one to predict the future possibilities in these cases are mentioned heredity, age of the patient, previous condition of health, pre-existing chronic diseases. In traumatic hysteria, as in all nervous and mental diseases, bad heredity throws an ominous shadow on prognosis, but in a very large proportion of cases traumatic hysteria no predisposition to nervous or mental disease is to be discovered. With reference to age, the older the patient, the greater is the danger that the symptoms will be permanent. In young children the physical symptoms of hysteria almost invariably pass away in a few weeks. Pre-existing chronic diseases make it more difficult to throw off hysteria, while in the healthy and well-nourished there is naturally more hope that the psychosis will be temporary. —*St. Louis Medical Review.*

GENERAL ORTHOPÆDIAC AND GENITO-URINARY SURGERY.

UNDER THE CHARGE OF

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CARBOLIC ACID IN BURNS.—Otto L. Muench, Washington, Mo. (Med. News, Aug. 24, 1901).—In burns of both mild and severe type the author paints the burned surface over with pure carbolic acid. This forms a crust with the albuminous exudate which acts as a protective covering for the tissue underneath and healing goes on rapidly. Owing to the anæsthetic effect of pure carbolic acid pain is relieved at once. No symptoms of carbolic acid poisoning occurs as the pure acid forms an albuminous compound with the tissues and is not absorbed. GEORGE R. WHITE.

A METHOD OF MAKING SILK SUTURES IMPERMEABLE BY MEANS OF CELLOIDIN.—Dorff, Cenlblt fur Gyn., July 27, 1901.—In order to overcome the property which silk thread possesses of acting as a capillary drain and carrying infectious material through the tissues, Dorff presented to the Brussels Gynecological Society a new method of rendering silk impermeable to the tissues of the body. English silk thread is made into skeins and boiled in 1 per cent. soda solution to remove all fat, and washed in water and boiled again in plain water. The silk is next soaked in alcohol and then immersed for 24 hours in a 25 per cent. solution of celloidin in alcohol and ether, to which has been added 1 per cent. of sterilized castor oil. The silk is rolled on wooden spools, the excess of celloidin pressed out, and after drying they are kept dry. Before using the sutures are boiled in a 1-1000 bichloride of mercury solution.

G. R. WHITE.

THE USE OF GELATIN FOR CONTROLLING HEMORRHAGE.—Joseph Sailer. —Since its first introduction by Dastres and Floresco in 1896 gelatin has been used in the control of hemorrhage by many investigators, till now there is considerable literature on the subject. Over 500 cases have been reported in which gelatin was used either internally, externally or hypodermatically. In general the results have been favorable, and large quantities may be used without injury, except in cases of hemorrhage from the kidney in nephritis, in which the increased coagulability of the blood causes the tubules to become

filled with blood casts and produces uremia. The exact mode of action of the gelatin is not understood, but it probably renders the blood more visceral and consequently more coagulable. The gelatin is prepared according to the following formula:

Sodium chloride	0.8 grammes
Gelatin	100 "
Water	1,000 "

The water is heated to about 80° C. and the gelatin stirred in till dissolved. Care must be taken to avoid boiling. After cooling to 40° C. the white of an egg is stirred into the liquid for several minutes and the mixture is boiled for a minute to coagulate the egg and clarify the solution. It is then filtered, first through gauze and then through filter paper. Thorough filteration is important, as the pain produced by infections is in proportion to the turbidity of the fluid. The clarified liquid is preserved in test tubes, each containing 10 c.c., and these are sterilized in the steam sterilizer for 15 minutes for three successive days. Prepared in this way the gelatin will keep several weeks, but after a time it becomes dry and no longer fit for use. Before using the tubes are heated to about 38° C. by placing in warm water, and the contents of a tube injected by a large hypodermic in the back between the scapulæ or on the outside of the thigh. Care should be taken to have the injection done with antiseptic precautions, as the gelatin solution is an excellent culture medium. The dose may be repeated as often as necessary. There is great variation in the strength of solution used and the amount injected. The usual method is to inject from 100 c. c. to 300 c. c. of a 1 per cent. solution, but the quantity is unnecessarily large and the procedure painful. Some go to the other extreme and inject 3 c. c. of a 30 per cent. solution, but in this strength the mass is viscid and not easily injected.

Internally about 300 grammes are given daily mixed with food. For external use the 10 per cent. solution is used, rendered antiseptic by adding a little carbolic acid. The remedy is useful in all kinds of internal hemorrhage, including hemophysis, bleeding from typhoid ulcers or ulcers of the stomach, metrorrhagia, and it appears to be the best remedy at our command in the treatment of hemophelia.

G. R. WHITE.

Surgical Hints.—Never place a suspicious wound in a dry dressing. The latter is the best in an aseptic wound, but you must know that it is aseptic before using a dressing that would help retain an unhealthy secretion in case one should appear.

Surgical needles will remain bright and sharp if kept in a saturated solution of washing soda. If rusty, they should be well rubbed until bright, with emery powder, then washed off with alcohol and placed in the soda solution.

Amputation of the cervix may be useful in certain conditions, but certainly not in cancer. In this disease it is unjustifiable, for it

does not remove the disease and it does hasten the general involvement, and an imperfect operation for cancer is a blot upon surgery.

In *children* and very nervous patients it is always best to *operate* in the *morning*, as this avoids weakness from hunger and the effects of a long and nervous wait. Besides, if these patients have taken anything but whey or some predigested food in the morning, the digestion will, through fear, have been quite suspended, and vomiting will certainly take place.

It is well to remember that it is practically *impossible to asepticize hair*. Hence operations or the treatment of wounds upon hairy parts, and especially the scalp, should be preceded by the shaving of an ample area. Patients often object to the removal of much hair from the scalp, but a little talk about the dangers of gangrene of this part will usually overcome their objection.

If compelled to amputate through the upper part of the arm or leg in a child, warn the parents that in all probabilities a *conical stump* will result, probably requiring surgical attention in later years. The humerus and the bones in the leg are developed to a great extent from their upper epiphyses, hence a conical stump must usually be expected, and the surgeon should protect himself by a timely warning.

In the *contraction* of the *œsophagus* that is sometimes seen in hysterical women, it is well to remember that there is sometimes a source of local irritation which appears to favor the occurrence of this condition. Ears plugged with wax, large tonsils and adenoids, nasal growths, may all be responsible and should be looked for. The mental effect of slight surgical procedures, when really indicated, is a great advantage.

Nitrous Oxide and Oxygen as a Surgical Anesthetic.—S. O. Goldan, in the American Journal of the Medical Sciences for June, 1901, says that nitrous oxide anesthesia can be maintained for long operations, with perfect safety to the patient, if it is combined with oxygen. If ordinary air is used to dilute the nitrous oxide the patient of necessity must be partially asphyxiated, the same as he is when nitrous oxide is administered alone. In using ordinary air as the diluent of the nitrous oxide, we are using a gas 80 per cent. of which is inert nitrogen. This means that any admixture of ordinary air with nitrous oxide that is given to a patient must have a suspension of the anesthesia at intervals to permit him to obtain sufficient oxygen. The result is that prolonged anesthesia with such a mixture means that it is a mere succession of asphyxiations. If the inert nitrogen is eliminated, a prolonged anesthsia can be obtained from a mixture of nitrous oxide and oxygen, the latter gas existing in a proportion of about 10 per cent. without any asphyxia. This shows that nitrous oxide has pure anesthetic properties. The same percentage of oxygen and nitrous oxide must not be employed in all cases, nor, indeed, throughout any one anesthesia. The writer

describes a Y-shaped pipe connected with the nose and mouth and containing a valve by which the amount of oxygen in proportion to the nitrous oxide can be accurately regulated. An account of one hundred narcoses is given, including various operations in which the anesthesia lasted more than one-half hour. In three of these the duration of the operation was more than two hours.

Prevention of Acute Peritonitis Following Appendicitis.—A. J. Ochsner, in the chairman's address before the Section of Surgery and Anatomy at the last meeting of the American Medical Association (Journal of the American Medical Association, June 22, 1901), reaffirmed his treatment of appendicitis. The wider experience of recent years has confirmed views somewhat at variance with those of many surgeons. The peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to other portions of the peritoneum, thus changing a circumscribed into a general peritonitis. This can be prevented by prohibiting all food and cathartics, and by the prompt removal by lavage of such remnants of food as may be found in the stomach. In case food is required, it should be administered by enemata and should be given not oftener than once in four hours, and not more than four ounces at a time.

It is claimed that such a treatment, instituted early, will change a violent acute perforative or gangrenous appendicitis into a mild and harmless form. Cases of appendicitis with beginning general peritonitis can be generally carried through an acute attack by this method. In all cases gastric lavage should be practiced to prevent the absorption of the decomposing material from the alimentary canal.

The patient should be permitted to recover fully from an acute attack before an operation is performed, except in cases which come under observation in the first thirty-six hours, or in those in which there is a superficial, circumscribed abscess. Such a management of the case as is here described does not protect the patient against a subsequent attack, and does not complicate the early removal of the diseased appendix before the septic material has extended beyond this organ. It is indicated in all intra-abdominal conditions in which septic material may be distributed through the abdomen by peristaltic motion.

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THE RECURRENCE OF ECTOPIC PREGNANCY.—E. M. Haret, Ann. de Gyn., Aug., 1901.—The author has analyzed and tabulated 35 new cases of recurrence of ectopic pregnancy found in recent literature. These are in addition to 96 cases reported by Varnier and Sens about a year previous. G. R. WHITE.

THE TREATMENT OF VAGINISMUS WITH COLPEURYNTER.—Heupert of Beilitz, Centralblatt fur Gynecologie, Aug. 10, 1901.—The most satisfactory method of treating vaginismus is to cocainize the introitus of the vagina and introduce a well oiled colpeurynter. This is filled with water until it begins to be painful, and as the vagina becomes more tolerant successive additions of fluid are made. After the last injection the instrument is allowed to remain in place half an hour. After two or three weeks of treatment with the colpeurynter a speculum may be used until a cure is effected. The great advantage of the colpeurynter is that the treatment is painless and the spasm caused by fear of injury to the external genitals by instruments is avoided. G. R. WHITE.

SALINE INFUSIONS IN ECLAMPSIA.—Robert Jardine, in The Lancet of June 15, 1901, says that in eclampsia some substance circulates in the blood possessing toxic properties. Of the nature of this substance we know little, but it is evident that the successful treatment of the condition requires that it be promptly eliminated. If we were able to keep all pregnant women under observation and treat all cases of albuminaria by milk diet, eclampsia would be practically unknown. Many cases, however, come under observation after the convulsions have developed, and then there is little chance to help them.

The functions of the alimentary canal are largely in abeyance, and to move the bowels very large doses of medicine are needed. The best cathartic in such cases is Epsom salts given through a stomach-tube, unless the patient is able to swallow. Prompt action of the skin can be secured by a hot pack or steam bath. Diuretics

by the mouth cannot be depended upon. Notwithstanding the contention that normal saline solution has no diuretic properties, he is convinced that it does stimulate the action of the kidneys, the latter power being most pronounced if to it is added a small quantity of acetate of soda or bicarbonate of potassium. Not only do we have this action on the kidneys, but normal saline solution delays the action of the poison and stimulates the patient just as it does in septic cases.

Infusions are given under the breast or into the abdominal wall, using for this purpose Potain's trocar. From one to three pints may be employed. In the Glasgow Maternity Hospital the death-rate from older forms of treatment was 47 per cent.; since infusions have been employed the death-rate has fallen to 24 per cent.

An analysis of the writer's twenty-two cases shows that seventeen were primiparous and five multiparous. One-half of the labors were at full time, and in only one case did the fits begin during the puerperium. Thirteen of the children were born dead and ten alive, there being a case of twins among the latter. Of the dead coildren, two were macerated, three were delivered by craniotomy, and three were too premature to live; so of the twenty-three children, only five were lost which might possibly have been saved. Of those born alive, one was premature and only lived two hours. Of the twenty-two mothers, three died, but one of the deaths was due to a perforating duodenal ulcer, after recovery from the eclampsia. Even counting that as a fatal case, three deaths in twenty-two, or 13.64 per cent., is certainly a very low death-rate. The first patient who died showed double pneumonia, multiple ulcers in the stomach, and patches of congestion throughout the intestines. She was treated with morphine, and during the forty-four hours she was in hospital neither the bowels nor the kidneys acted. She only excreted 11½ ounces of urine during the whole time. The second fatal case was the one with the duodenal ulcer. The third patient was delivered by craniotomy. The true conjugate measured 3½ inches. As the child was dead, craniotomy was performed at once. The treatment has lowered the hospital death-rate from eclampsia by about 50 per cent., and has saved more children than the older methods.—*Medicine.*

The Infections in Diseases of Women.—Charles A. L. Reed, in the St. Paul Medical Journal for June, 1901, formulates the following rules in relation to infection in diseases of women: 1. The epithelial surface of the genital tract in its integrity is an efficient barrier against invasion of the underlying structures by pathogenic microorganisms that establish parasitic and saprophytic relations to the vagina. 2. The normal cervix and its contained secretions are adequate barriers against invasion of the uterus by pathogenic bacteria that are capable of maintaining a habitat in the vagina. 3. The vagina possesses certain powers of self-disinfection, which work only

against the organisms that are at once true parasites and facultative aerobes. 4. Certain pathogenic bacteria, notably the gonococcus of Neisser, the Klebs-Loeffler bacillus, and the oidium albicans, find in the warmth and moisture of the genital epithelium conditions favorable to their propagation and to the increase of their virulence, whereby the epithelium itself may be destroyed, to the extent of losing its protective properties. 5. Pathogenic bacteria innocuously present in the genital tract may become virulent when introduced into the underlying structure through a breach in the protective epithelium. 6. Pathogenic bacteria when introduced into previously normal tissues immediately provoke the process called inflammation, the essential phenomenon of which is an exudate and rapid extravascular migration of the leucocytes, which act as phagocytes in preventing the further invasion of the system. 7. Pathogenic bacteria that are not thus overcome by the leucocytes may enter either the lymphatic or the sanguiniferous circulation, producing secondary phenomena, septicemia, pyemia, and even the death of the patient.

Pelvic Massage in Gynecology.—Louise Southgate, in the Cincinnati Lancet-Clinic of June, 1901 (Medicine, August), says that several different methods of pelvic massage have been advocated, but they may generally be divided into two types: those in which the manipulations are through the abdominal wall, and those in which bimanual massage is used, the uterus and appendages being supported by one hand in the vagina. A combination of abdominal and rectal massage has also been employed. As taught by Thure Brandt, pelvic massage is neither painful nor dangerous. He always employs the abdominovaginal and rectovaginal forms. In the former the vaginal finger is placed in the cul-de-sac, and very slight pressure is made upward, while the abdominal hand "masses" with slight rotary movements. It is admirably assisted by the gymnastics which he employs, which consist of a voluntary contraction of the muscles against resistance. The writer has employed pelvic massage in thirteen cases, and has had abundant opportunity for observing its application in the gynecological clinic of Auvard at Paris. Under its use pain and soreness in the pelvis is rapidly relieved, exudates are absorbed, and adhesions are broken up. Subinvolution is reduced and enlarged fibrous ovaries are diminished in size. In lax vaginal walls and retroverted and prolapsed uteri without complications the results have been excellent. In cases of dysmenorrhea of many years' standing, with adherent ovary, relief has been obtained.

A New Method of Supporting the Perineum.—J. Hofbauer, in the Centralblatt fur Gynecologie of February 2, 1901, advises a new method of supporting the perineum in head presentation. As the head advances it is carefully observed until the anterior fontanel appears. At this moment the head is grasped and rotated about

forty degrees, so that its engagemest at the outlet shall be in an oblique direction. An effort to rotate the head must not be made until the anterior fontanel appears.

The Age of First Menstruation in the United States.—Dr. G. J. Engelmann, of Boston, Mass., at a recent meeting of the American Gynecological Society, the twenty-sixth annual meeting, held in Chicago, May 30, 31, and June 1, 1901, read a paper on this subject. Over 10,000 observations as to the time of first menstruation of American-born women, many with reference to points never before investigated, here or elsewhere, gives him ample material for an authoritative solution of the questions involved. These observations, from his own practice and that of helpful friends, are many, and the identity of results obtained in far distant points, Montreal and New Orleans, St. Louis, Cincinnati and Boston, vouches for their correctness. Furthermore, they are corroborated by all previous records, a total of 6,000, in such points as these may cover. The mean age of first menstruation in this country is 13.9 or 14 years, the same in the United States and Canada. Climatic differences in no wise influence pubertal development within the bounds of the North American continent; the American-born, be they of American (14.1), German (14.3), Irish (14.3), or French (13.6) parentage of the same class, attain puberty at the same age in Montreal, St. Louis or Boston; the negro does not vary (14.05), whether in New Orleans or St. Louis. The greatest variation caused by the extremes of all influences is one year, from 13.5 in the girl of highest refinement and education to 14.5, which is the period for the American-born of the laboring classes of German and Irish parentage; in other countries the difference between the extremes of social classes is from two to three years. The native American is more precocious than the American-born of foreign parents, but the latter closely approximate the American of American parentage, even in the first generation.

Use of Hot Water Vaginal Injections.—Burtenshaw (N. Y. Med. Jour., April 20, 1901) in those cases in which the therapeutic vaginal douche is indicated, gives the following rules for its use: 1. Use a large-sized fountain syringe or douche which can be attached to a support three or four feet above the body. 2. Always lie flat on the back when taking a douche, with the hips slightly elevated and the shoulders depressed. 3. Always use at least three gallons of plain water, as hot as can be borne, at a temperature of from 107 to 120° F. for each douche. 4. Take the injection twice daily, morning and evening, except on the two days preceding and the two days following the menstrual period, when it should be omitted.

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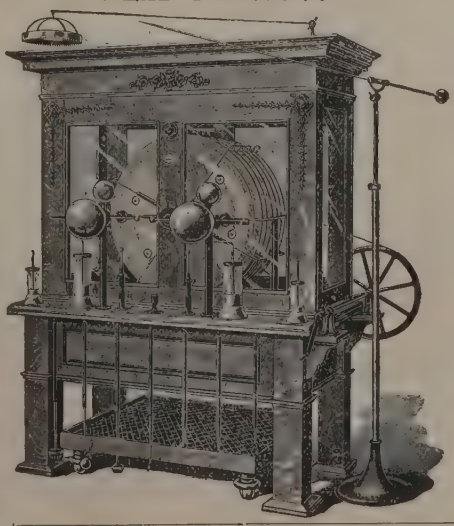

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INDEX TO ADVERTISEMENTS.

		PAGE
Allison's Tables	W. D. Allison & Co.	XIV
Acneine Chemical Co		X
Anasarcin Tablets	Anasarcin Chemical Co.	V
Antiphlogistine	Denver Chemical Manufacturing Co.	V
Antikamia	Antikamia Chem. Co.	XII
American X-Ray Journal	Dr. Heber Robarts	XVII
Atlanta Retreat	Dr. C. C. Stockard.	XIII
Bartholdi Hotel	Milton Roble.	XIV
Bath Cabinets	Robinson Thermal Cabinet Co.	XIX
Bovinine	Bovinine Company	I
Buggies	Parry Mfg. Co.	XVI
Cot-or-al	The Agnew Pharmaceutical Co.	XIX
Chionia	Peacock Chemical Co.	VIII
Celerina	Rio Chemical Co.	VI
Cod Liver Oil	Scott & Bowne.	VII
College of Physicians and Surgeons		VIII
Cystogen	Cystogen Chem. Co.	II
Ergo-Apiol	Martin H Smith & Co.	2d CVR.
Emissine	St. L. Phar. Co.	XVI
Fellows Syrup Hypophosphates	Mr. Fellows	VII
Glyco-Heroin	Martin H. Smith Co.	VIII
Gray's Glycerin Tonic Compound	The Purdue Frederick Co.	VI
Hypotone	Hypotone Co.	V
Iron and Manganese Peptonate	H. A. Cassebeer	XV
Lamps	Rochester Lamp Co.	X
Maltine	The Maltine Co.	III
Medical Review of Reviews	Dr. Daniel Lewis	XVIII
Medical Books	Lea Bros. & Co.	IX
Nephro-Tone	Eldred Simpkins & Co.	VI
Orthopœdic Appliances	Frank S. Betz & Co.	XX
Portaits	Continental Art Co.	XXII
Pepto Mangan ("Gude")	M. J. Brietenbach Co.	IV
Peptogenic Milk Powder	Fairchild Bros. & Foster	4th CVR
Prepared Food	John Wyeth & Bro.	XXIII
Protargol	Farbenfabriken of Elberfeld Co.	XIX
Polk's Medical Register	R. L. Polk & Co., Publishers.	XV
Saddle Bags	Dr. W. S. Marshall	XXVI
Sanitarium—Atlanta Retreat	Dr. C. C. Stockard.	XIII
"	Dr. T. M. McIntosh	XIII
"	Drs. Elkin & Cooper	XIII
Seng	Sultan Drug Co.	XVI
Static Electric Appliances	R. V. Wagner & Co.	3d CVR
" " "	C. F. Birtman Co.	XVII
Splints	Pneumatic Splint Co.	XV
Sterate of Zinc	McKesson & Robbins	XVI
Tapestry Paintings	John F. Douthitt	XVIII
Tyree's Antiseptic Powder	J. S. Tyree, Chemist	II
Vitogen	The G. F. Harvey Co.	2d CVR
Whiskey	Simon N. Jones & Co.	VIII
Old Times Whiskey	Old Times Distilling Co.	XVII
Wheeler's Tissue Phosphates	T. B. Wheeler.	X

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TABLE OF CONTENTS.

ORIGINAL COMMUNICATIONS.

Pathology and Treatment of Anæmia—By W. E. Fitch, M.D., Savannah..... 97

Our Recent Epidemic of Small-Pox and Vaccination—By F. J. Runyon, M.D, Tennessee.....102

Report of Two Cases of Hemoglobnuric Fever—By Walter Shropshire, M.D., Texas.107

The Management of Fevers—By J. N. Love, M.D., New York.....113

The Value of Ergo-Apiol in Menstrual Disorders—By Geo. M. Norton, M.D.....132

EDITORIAL.

Malarial Hematuria.....118

EDITOR'S TABLE.

McMillan Co.'s Announcement.....120

Laws Against Substitution 120

Too Many Doctors 121

Examinations for Appointment to Medical Department, U. S. A.....122

Nashville Meeting Tri-State Medical Society.122

NEW BOOKS.

A Treatise on the Acute Infections Exanthemata—By William Thos. Corbett, M.D., L.R.C.P 123

Libertineism and Marriage—By Dr. Lewis Jullien, Paris.....124

An International System of Electro-Therapeutics—By H. R. Bigelow, M.D., and G. Betton Massey, M.D.....124

Transactions of the American Electro-Therapeutic Association—By Editorial Committee.....125

A Text-Book of the Practice of Medicine—By Jas. M. Anders, M.D., L.L.D.....126

Nervous and Mental Diseases—By Archibald Church, M.D., and Fredrich Petersen, M.D.....127

The American Illustrated Dictionary of Medicine—By W. A. Newman Dorland, A.M., M.D.....128

The Pathology and Treatment of Sexual Impotence—By Vector G. Vecki, M.D.....129

The Diagnostics of Internal Medicine—By G. R. Butler, A.M., M.D.....129

The Estivo-Autumnal (Remittent) Malarial Fevers—By Chas. F. Craig, M.D., A.A., S. A.S.A.....130

PROGRESS OF MEDICAL SCIENCE.

Therapeutics—

Ergo-Apiol in Menstrual Disorders.....132

The Action of Opium on the Stomach.....133

Methylene Blue Injections in Pleurisy with Effusion 134

Supra-Renal Gland in Peritonsilar Abscess...134

Poisoning by Anilin 135

Acetanilid Poisoning by External Absorption.....135

Apocodine as a Laxative.....135

Blood, a New Method of Differentiating Between Human and Animal.....136

Dysentery, Treatment of.....136

Internal Medicine and Neurology—

Cases of Malignant Endocarditis following Measles, Typhoid Fever and Miscarriage...137

Etiology of Aspiration Pneumonia.....137

Condition of the Kidneys with Reference to the Employment of Diuretics.....138

Primary Sarcoma of the Thyroid Gland.....139

Importance of Blood Analysis in Diagnosis...139

The Prognosis of Traumatic Hysteria Founded upon Subsequent Histories of a Number of Cases.....140

General Orthopœdiac and Genito-Urinary Surgery—

Carbolic Acid in Burns.....140

A Method of Making Silk Sutures Impermeable by Means of Celloidin.....141

The Use of Gellatin for Controlling Hemorrhage.....141

Surgical Hints.....142

Nitrous Oxide and Oxygen as a Surgical Anesthetic.....143

Prevention of Acute Peritonitis Following Appendicitis.....144

Obstetrics and Gynœcology—

Ectopic Pregnancy, Recurrence of.....145

Vaginismus, the Treatment of, with Colpeurynter 145

Eclampsia, Saline Infusion in.....145

Infectious Diseases of Women.....146

Pelvic Massage in Gynæcology.....147

Perineum, a New Method of Supporting.....148

The Age of First Menstruation in the U. S...148

The Use of Hot Water in Vaginal Infection..148

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